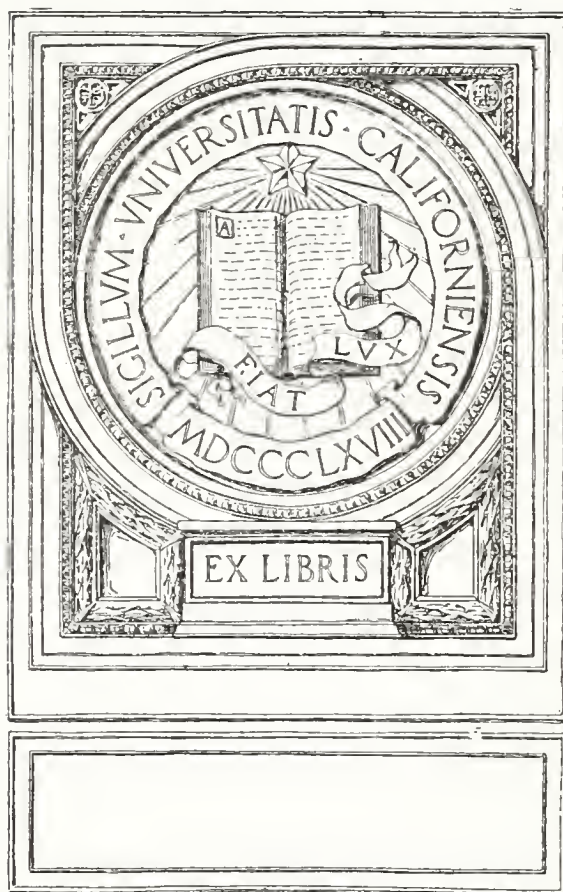



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ISSUED MONTHLY UNDER DIRECTION OF THE PUBLICATION COMMITTEE

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E. J. GOODWIN, M.D.,
EDITOR

PUBLICATION COMMITTEE { W. H. BREUER, M.D., Chairman
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ORIGINAL ARTICLES

THE SYMPTOMATOLOGY AND TREATMENT OF ALOPECIA AREATA*

RICHARD L. SUTTON, M.D.
KANSAS CITY, MO.

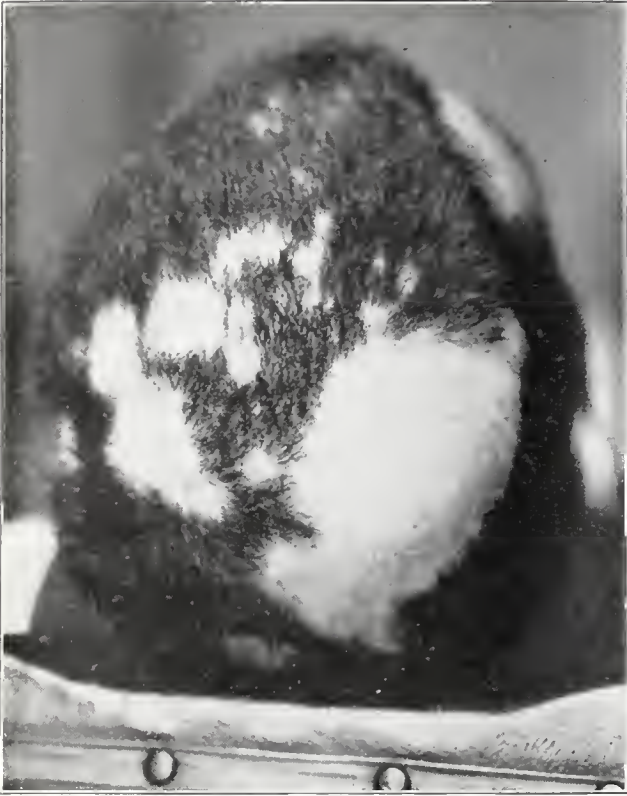
Next to seborrheic dermatitis of the scalp, alopecia areata is the most common of all causes of hair loss in this region. The disorder is characterized by the occurrence of sharply circumscribed, rounded, oval or irregular patches of complete baldness, usually without attendant constitutional or subjective symptoms. While the scalp is the site of predilection, the eyebrows, the bearded region, and even the pubes and axillae may in exceptional instances be involved. The lesions usually develop suddenly and on apparently normal skin, and often the first intimation the patient has of the presence of the disorder is when a large bunch of hair suddenly becomes detached from the head during the process of combing or brushing. Occasionally the outfall is gradual, several days or more being required for the development of appreciable baldness. The spots enlarge peripherally for a few days or weeks, or they may become confluent, with consequent development of areas of wide extent. In the generalized type, examples of which are somewhat rare, all of the hairy regions are affected, and the scalp, brows, face, axillae, and pubes are absolutely bare.

At the margin of the lesions the hairs may exhibit slight atrophic changes near the mouths of the follicles (the so-called "exclamation point" hairs), and many become loose and can be easily and painlessly extracted. The bald plaques are pinkish or whitish in color, of normal consistency, and of various shapes and sizes. Commonly they are rounded or oval in outline, but occasionally they are oblong, circinate or band like. The latter clinical type is observed most

frequently in children. Regrowth takes place slowly. The first crop of hair is usually thin, colorless, and lanugo like, and often falls out after the shafts have attained a length of a centimeter or two. The second or third growth usually persists, however, although the constituent hairs may always remain uncolored, thus giving rise to a peculiar, mottled appearance which is quite striking. Associated trophic disorders of the skin, such as leukoderma and scleroderma, are sometimes present on both the affected areas and on other parts of the body. Nail changes also are occasionally noted.

The exact cause of alopecia areata is not known. The disease is commonest between the first and third decades of life, and affects the sexes with about equal frequency. There are two generally accepted theories regarding its etiology. One points to a parasitic, the other to a neurotic, origin. It is probable that both are correct. Typical lesions sometimes develop as a result of traumatic neuritis, and I have seen a classical example following a supra-orbital zoster. It is not improbable that the disorder is in some respects analogous to herpes zoster and to anterior poliomyelitis, and that it may result from any one of several causes, acting on certain nerve trunks or ganglia. The most frequent of these is probably infection with a specific micro-organism, which theory would go far toward explaining the occasional epidemics that have been reported by Bowen, Pusey, and others, although hemorrhage, trauma, and various mineral poisons, as thallium acetate, may be important etiologic factors in some instances. Nervous shock, anxiety, mental worry, etc., probably serve more as predisposing than as causative factors, just as in acute, generalized cases of lichen planus. The theory that a large percentage of the cases is directly due to either ringworm, as suggested by Crocker, or syphilis, as claimed by Sabouraud, is exceedingly far fetched. It may be that the irritation is peripheral, although in my opinion this is not probable; in this case the micrococcus described by Vaillard and Vincent comes nearer

* Read at the Fifty-Eighth Annual Meeting of the Missouri State Medical Association, St. Joseph, May 10-12, 1915.



Alopecia areata involving scalp alone. Three months' duration. Case of the usual type.



Alopecia areata of wide distribution, involving scalp and eyebrows. Showing condition of patient one year after treatment was commenced.



Alopecia areata of three months' duration. Prompt recovery following treatment.



Alopecia areata involving scalp and eyebrows. Later the alopecia became of the universal type.

than any other to fulfilling the essential requirements.

The histopathology of the cutaneous lesions has been exhaustively investigated by Robinson. The process is an inflammatory one from the first, and is primarily perifollicular. In a patch of one week's duration he found the epithelium and rete normal, with slight inflammation of the papillary layer and marked inflammatory changes in the corium, as shown by the presence of considerable round-celled perivascular infiltration. The infiltration was not general, but

sufficient for recognition. Cicatrices due to trauma or to disease, particularly lupus erythematosus, lupus vulgaris, and syphilis, may at times resemble alopecia lesions, but their character and history usually are distinctive.

Prognosis.—The favorableness of the prognosis varies indirectly with the age of the patient and with the extent of the baldness. Relapses are frequent, and recurrences not uncommon, but in children and in young adults complete recovery can usually be safely predicted in all except the universal cases. In patients over 40 the outlook is less promising, however, and the prognosis should be guarded.

Treatment.—Of the various constitutional remedies that have been recommended, none is specific. Arsenic, iron, cod liver oil, and simi-



Alopecia areata of unusual distribution. The bald area was Y shaped, and extended from the forehead backward to the occipitoparietal juncture, thence to the lateral occipital regions.

limited to areas in the section, and Robinson considered this fact an important point in favor of a microbic etiology. The subcutaneous tissue was normal, as were also the sebaceous and sweat glands.

Diagnosis.—In children the disorder is liable to be confused with ringworm of the scalp. The smooth, entirely bald, sharply defined character of the alopecia areata patches, the rapidity of their development, and the absence of broken hairs and of the ringworm fungus should be



Band-like alopecia areata in a boy of 8 years.

lar tonics are indicated, should the patient's general health be below par. Believing, as I do, that the disorder is essentially due to ganglionic injury, following trauma or injection, I have, during the past four years, prescribed hexamethylenamin as a routine measure in all my alopecia areata cases. The dosage varies, but the majority of patients can comfortably take from 5 to 10 grains (0.3 to 0.6 gm.) in plentiful amounts of water, after each meal for considerable periods of time. If there is any resulting vesical irritation the remedy should be withdrawn for a few days and then its use gradually resumed. I believe the drug exerts a favorable influence in the majority of instances. At any rate, my results have been far more satisfactory since its adoption than

before. Locally, stimulating applications are the most valuable. The majority of those recommended are antiseptic as well as irritating, but in the selection of a remedy its bactericidal properties are of secondary importance. The list includes a wide variety of drugs—tar, mercuric chlorid or iodid, chrysarobin, beta-naphthol, croton oil, aqua ammonia, tincture of cantharides, trikresol, and phenol.

Of these various agents, phenol (95 per cent.) as originally recommended by Bulkley, has proved the most efficient in my hands. The remedy may be applied full strength to bald patches on the scalp and eyebrows, but should be diluted one half with glycerin when treating lesions on the face. It may be painted on twice weekly, care being taken to avoid covering too large an area, not more than 50 square centimeters at one time. I prefer to apply only a thin film, and allow it to remain on the skin,



Two cases of alopecia universalis.

but many authorities recommend that the phenol be immediately followed by liberal applications of ethyl alcohol.

In addition to this local irritant, I generally prescribe a stimulating tonic, such as mercuric chlorid dissolved in alcohol, mainly for the purpose of stimulating the growth of the hair and eradicating any lesions of seborrheic dermatitis that may be present. The following mixture has proved very satisfactory in my hands:

	gm. or c.c.	
R Mercuric chlorid	0 01	gr. $\frac{1}{6}$
Chloral hydrate	8i	$\frac{3}{4}$ ii
Spirits of formic acid.....	15i	$\frac{3}{4}$ iv
Castor oil	0 3	min. v
Alcohol (80 per cent.)...q. s.	180i	$\frac{3}{4}$ vi
Oil of bergamot to perfume.		

M. et Sig.: Shake, and apply to scalp at night.

An occasional massage is helpful, principally as a circulatory stimulant. The main dependence, however, is to be placed on the hexamethylenamin and phenol. If these are employed methodically and persistently, recovery will result in the majority of instances.

Lathrop Building.

MULTIPLE BRAIN ABSCESSSES OF OTITIC ORIGIN*

E. LEE MYERS, M.D.
ST. LOUIS

I wish to present the clinical symptoms of a case which had some very peculiar symptoms.

On the 7th of August when I was called to see the patient, a young woman, she was semicomatose, awakened easily, but answered questions slowly and incorrectly with a tendency to fall asleep between the answers. There was a lagophthalmos of the right eye; tongue protruded to the right; buccinator of the left side seemingly weakened. When she puckered her lips, there was a slight pulling of the facial muscles to the right.

Babinski's sign diadokokinesia was positive with the right arm. She seemed unable to get this arm up with the same rapidity as the left.

In the erect position, she fell in the direction of her right ear; if the head was turned, the direction of falling was changed in that direction. Babinski's toe sign was absent on both sides. There was an accentuation of the patellar reflex on the left side, as also of the plantar reflexes.

The eye-grounds were examined and nothing abnormal found. There was at this time a transitory internal strabismus of the left eye. Urine examination was negative.

Mentality was very sluggish. On asking her name she gave her maiden name. Could not give correct age.

No spontaneous or induced abnormal nystagmus.

In the pointing tests of Bárány, no abnormalities were to be made out.

Past History: Scarlatina as a child, which left her with running ears. In the last two or three months, the left ear began running very profusely, and she at this time complained of severe headaches and pain in the vertex of the skull and over the frontal region. The mother at this time noticed that she was extremely hard of hearing on the right side. She had some fever and one attack of vomiting and dizziness which quickly disappeared. However, this was about two months before her entrance into the hospital.

The right auditory canal showed an old chronic suppurative process, while the left was filled with foul-smelling pus with an absence of the membrana, and a pronounced sagging of the superior wall, which was abnormally bulged out. Bacteriologic examination of the pus from this ear showed a pure culture of staphylococci and saphrophytic organisms. Fistulae symptoms were absent in both canals.

The patient continually yawned and was very apathetic.

Because of the right-sided facial paralysis, I was prevailed on by my consultants to do a right-sided operation; and although we made a careful search in the temporal region, jugular sinus and cerebellum, nothing outside of a few granulations in the middle ear were found.

Two hours after this operation, patient was markedly brighter, answered questions quickly, was able to tell her correct age, both eyelids closed equally, she moved either arm with ease and equally well, reflexes about normal.

August 10: Noticed patient was somewhat sleepy, the right upper lid seemed to be weaker on closing the eyes and in the effort to keep closed. A lumbar puncture was done; fluid came out slightly under

* Read before the Oto-Laryngological Section, St. Louis Medical Society, January 27, 1915.

pressure and proved absolutely clear. Patient still protruded tongue to the right.

August 11: Patient was not so sleepy; answered questions rationally and quickly; no exaggerated reflexes; ate well; pulse 90 and full, while previous to the operation the pulse was 58 and 60; no pains in her head; no drooping of the right upper lid. When the patient protruded tongue, it went to the right and the left upper eyelid would close; when she attempted to whistle, the lips were drawn to the right. The patellar reflexes were normal. I got a slight positive adiadosokinesia of the right arm.

August 12: Patient not so sleepy, but yawned a great deal; temperature normal; pulse 84 to 108; tongue still went to the right; right eyelid lagged a little; patient on the whole somewhat improved, although I felt as if the trouble were entirely on the left side, because of the appearance of the left auditory canal's superior wall.

August 13: Patient now showed the same drooping of the right upper lid; tongue protruded to right; right pupil dilatable and contractable, while the left one was permanently pinpointed. Answered questions readily, but was not always correct; at one time she said she was 60 years, another time 70, called a watch a "Catchem," in other words paraphrased; no neck rigidity; the left canal showed a bulging in the attic region which discharged a very foul pus. In the morning, the patient complained of pain in the left temporal region, although I could not at any time make out percussion pain or difference in the temperature of this region from other regions of the head.

On operating, I found the mastoid cortex very soft and obtained a few drops of pus in the attic; found a sequestrum, which proved to be the tegmen tympani; dura covered with exuberant granulations, which extended fully three-eighths inch forward, dura very much thickened and difficult to cut through, and by putting my knife directly upward I got no pus, but by going forward obtained creamy pus of a strong fecal odor; the director was put in gently forward for fully 2½ inches and touched no brain substance. Two tablespoonfuls of pus undoubtedly were drained by this incision. Patient left operating room; and instructions were given for her to lie on the left side, proctoclysis was ordered and urotropin in large doses. Patient was conscious immediately after operation.

August 14: Patient lay in a stupor all day, no sign of meningitis, a slight Babinski on the right side, pupils now equally contracted, absence of facial paralysis.

August 15: Patient still in stupor at 4 p. m. After giving atropin hypodermatically, patient became conscious at 8 p. m. The pus from the left wound came out in such quantity that it ran over the neck of the patient while the dressing was being removed and continued to well up in great quantities for some time.

August 16: Patient considerably brighter and asked for soda. There were no abnormal conditions as heretofore mentioned—paralysis, etc.

August 17: Patient on the whole improved. Tongue protruded in a straight line; both lids closed equally; patient talked rationally, but still made errors as to her age and the names of her children. There was an equal amount of pus from the wound today, creamy in character.

August 19: A blackish seropurulent discharge from the left wound present; mental condition about the same; could not successfully tell you what objects were, but told the time correctly and could tell the difference between coins, recognized her family; both eyelids closed equally; tongue protruded normally.

August 21: Facial paralysis about gone, except slight effacement of the right naso-labial furrow; did

not know objects such as knife, cigar, but knew their use.

August 22: Patient able to read correctly and could write well, knew her name but called herself Mrs. Sadie Kohn, later corrected herself, then using husband's name; did not recognize ordinary objects and when told what they were she used the correction for the name of the next object on which she was quizzed; talked rationally of abstract subjects, but knew little of the concrete; right wound about healed; left still drained; foul-smelling pus; slight effacement of the right naso-labial furrow.

August 26: Patient able to tell correct age, but did not know concrete objects, was unorientated as to her situation and called me by various names of her friends.

September 1: Patient drowsy, and seemed to be unable to keep from yawning, but was easily awakened; no facial paralysis; still paraphrased; appetite poor; dura still open, but not much exudation; complained of no pain, moved around in bed easily.

September 4: Right pupil very much pinpointed; did not awaken easily when spoken to; right pupil did not dilate in dark. I decided to hunt for another pus pocket, as the pulse was 64. I found a pocket in the direction of the frontal lobe, 4½ inches forward, which continued to drain slowly for 45 minutes, with very foul discharge. Patient immediately became conscious and as rational as before. That evening there was no temperature, pulse normal; she was able to get out of bed and walked about the hospital corridors, said she felt fine, and wanted to go home.

September 4 to 19: Patient walking around; no pus from wound, which was kept open by using a small catheter. Under pressure from the parents, I allowed patient to go home on the next day. The following day, she came to my office for treatment and I noticed she was unsteady on her feet and showed an inclination to doze while I dressed the wound; temperature 99, pulse 64.

September 22: Patient doing badly, pulse 64, temperature normal. I felt that there was another pus pocket somewhere, and was able to find one 2½ inches back of the opening in the dura. Patient immediately became brighter and that evening was sufficiently well to insist on getting out of bed.

On the night of the 24th, while dressing the wounds, I found another pocket of pus. Patient was somewhat comatose. I advised further consultation, as I saw nothing before me but another surgical procedure.

September 25: After further consultation, it was decided to explore the region of the inferior petrosal sinus. At this time, a new symptom developed, a temporary clonic spasm of the right arm, more intense in the fingers. There was a slight accentuation of the right knee-jerk, also a Babinski of the right foot. Right upper eyelid drooped slightly.

At operation on the 25th, I enlarged the anterior incision, breaking through the temporal squama, laid bare the dura for a distance, and found the dura very tense, opened up the dura over the area which seemed to be most tense, when necrotic brain tissue was extruded. I was able to find a pus pocket which connected with the first abscess cavity. Patient's pulse became better during this procedure, as some pus was evacuated.

On the two following days, patient was much brighter, talked little, but made signs better, obeyed orders well; pulse 80; temperature normal.

The evening of the second day after this operation, she ran a fever of 102, with a high pulse, which continued for six hours, and on the next morning I found a large hematoma over the site of the incision,

which caused an ecchymosis of the left upper and lower eyelids. The right pupil was now firmly contracted. I opened up the stitches in the wound and let out a clot on the dura. The patient immediately became brighter and the right pupil then dilated and reacted to light.

September 29: Patient dressed at 8:30 a. m., was able to talk a little. I got some pus from the hematoma, but the main stitches were left in. Could get no pus from the posterior incision. At 11 a. m., patient unconscious, with high, thready pulse; right pupil pinpointed and tissues of the left eye almost closed off the ball; no Babinski, or ankle clonus.

I felt that I still had some pus to drain, but could not locate the pocket; was able to remove some necrotic brain tissue through the dura by manipulating gently. The pulse became better and the right pupil normal in its function. Patient still unconscious; and after consultation with a neurologic surgeon the case was transferred to another hospital, where Roentgen-ray pictures were made, aspirations done, but no further operating attempted. The pulse gradually mounted in the last few days of her life, reaching 140, while the temperature went as high as 105. No necropsy was obtainable.

What appear to me to be the instructive points in this case are the following:

The involvement of the right facial nerve, causing the right upper lid to droop, the effacement of the right naso-labial fold, and the irritation of the motor-oculi of the right eye by the contraction of that pupil.

Also the weakness of the buccinator of the left side. With the exception of the protrusion of the tongue to the right, not much evidence was shown of any involvement of the left facial nerve; however, an explanation of the protrusion of the tongue to the right can be made by the unequal action of the hypoglossal muscles.

The involvement of the speech centers (she being right-handed) gave me a clue to the condition being a left-sided brain abscess. We were evidently dealing with motor aphasia involving the speech center, as patient understood questions and attempted to answer, but frequently answered incorrectly, paraphrasing her answers. Her powers of writing and reading were but little impaired, as the symptoms tend to show.

The symptom of Babinski, diadokokinesia of the right arm, is not so easily explained. It is as a rule on the same side as that of the lesion. This question can be satisfactorily argued when we consider the course of the motor neurone coming from the opposite side of the cerebral cortex; this explanation in my mind accounting for the contralateral facial paralysis.

All through the course of the disease, the patient upon showing signs of intracranial pressure invariably developed symptoms of involvement of the right half of the body and more distinct aphasic disturbances, but these disturbances were usually in her speech and not in reading, writing or seeing.

A total absence of fever, during the period of recurrence of pus, made one think of a well circumscribed, old abscess.

The lack of percussion pain over the area effected tends to confirm the above statement.

I regret that I have not the patient's brain to show but religious views in this case seriously influenced all such procedures.

3904 Laclede Avenue.

DISCUSSION

DR. M. A. GOLDSTEIN: I saw this case late in its course and then on the occasion of the last operation that was performed. What impressed me most definitely was the clinical character of the lesion or lesions. I take it that this was a case of multiple abscess of perhaps bilateral character but we cannot substantiate that point as we have not the brain to show for it. There were certainly two distinct, well-defined abscess cavities in the cerebrum on the left side, one extending forward to an unusual degree, practically to the frontal area, and the other located backward and upward beyond the tegmen in the temporo-sphenoidal fossa.

Another feature of considerable clinical importance is the value of decompression in this class of cases; for, as the doctor describes in his more detailed report, after each decompression or each evacuation of even a small quantity of pus the intense clinical symptoms, which were the only guides, were temporarily remarkably relieved. There is no doubt in my mind that there were other unexplored abscess foci in that brain, and if they could have been gotten at like those that were drained the patient might have had a better opportunity for recovery.

The facial paralysis features are rather confusing clinical conditions which can hardly be met by ordinary medical logic. I take it that there were abscess cavities on either side of the cerebrum. I do not know whether a pus pocket was found on the right.

DR. MYERS: No, we did not find a pocket there.

DR. GOLDSTEIN: The blood was never examined as to the presence of microorganisms, was it?

DR. MYERS: No.

DR. GOLDSTEIN: At any rate, whatever the etiology in this case was the pathology was very evident in the parts that I saw—two distinct pus cavities located five to five and a half inches apart. As the two cavities could not have been one abscess and as the drainage from this large frontal abscess was definite, I can only conclude that there was some unexplored abscess cavity which finally produced *exitus mortalis*. In this case, it is remarkable that so much surgery could have been undertaken and immediate results follow each surgical procedure; and still more remarkable that this patient had to succumb without the final drainage of the abscess cavity which I am sure must have existed in that brain and which would have been found on the postmortem table. Unfortunately, we have no brain to show for the end results.

DR. MYERS, closing: I felt sure this was a left-sided brain abscess because of the woman having a motor aphasia. On the left side the canal was sagging, with a teat-like process which met the eye almost at once, and I knew we had an explosive condition to deal with even without considering the mental symptoms. I do not think a ptosis was present but a paralysis of the eyelid which is supplied by the facial nerve.

The draining was free even when there was no pus. The decompression operation, which evidently did some good was very much criticised by a neurologic surgeon who says otologists do not know how to operate on brain abscess cavities, but that we attempt to drain brain abscesses through a mastoid wound when we should make a temporal wound.

EARLY MANAGEMENT OF ANTERIOR POLIOMYELITIS*

C. B. FRANCISCO, M.D.
KANSAS CITY, MO.

In presenting this subject I will begin by saying that I have nothing new to offer, but it occurred to me in looking over the literature that by presenting some of the well-known facts in a somewhat different manner some impression might be gained that would be of value. I propose to analyze fifty consecutive cases that have applied for treatment at the Mercy Hospital, after the acute stage has passed, with two exceptions, in the service of my colleague, Dr. Schauffler, and myself, and discussing certain phases that are suggested by this group.

These patients, who presented themselves from a few months to several years after the acute attack, were characterized in nearly every instance by a deformity of lesser or greater degree, which in many instances was preventable. It seems quite unusual for a case of even severe and widespread paralysis to escape some contraction of joint capsules or fascias which require correction before one can begin to apply such surgical procedures as tendon transplantation and silk ligament arthrodesis.

Discussing the prevention of deformities brings us to the consideration of the early diagnosis of anterior poliomyelitis and the early management of these cases. It will be noticed that in this group a large majority of the cases occurred in the late summer and early autumn. This is a point that has been frequently alluded to but apparently often not thought of by the attending physician when called to see a sick child during the summer months. The question is, what is going to suggest infantile paralysis to the doctor when summer complaints are prevalent in his practice? A factor that stands out markedly in this series is the sudden onset. The mother or parent in a surprising number of cases could not only name the day of the month and year but could recall the hour of the day when the child was stricken, and in three instances the onset was apparently so sudden that the child fell from a swing or from a door step, producing a fracture, and immediate paralysis of various parts was noted. It seems to me that a sudden onset, occurring in a child that had been previously perfectly well, in the summer season, should always suggest this disease to the mind of the physician and enable him, in some cases, to give a prognosis that would later be borne out by the course of the disease.

Fraser,¹ in his observation on ninety acute cases observed at the Rockefeller Institute, calls attention to the importance of testing for pain and stiffness of the neck and back and the resistance or pain on attempting flexion of these parts. He states these signs are often present before paralysis begins. This sign, which is apparently fairly constant, should always be sought for in a child suddenly becoming ill in the summer time.

Of course it is well known that all cases are not characterized by a sudden and severe onset, but I think it is safe to say that all cases that are so characterized will result in severe and lasting paralysis. To my mind this is one strong point in favor of the theory of the direct action of the toxin on the anterior horn cell, in conjunction with the perivascular infiltration and the resulting mechanical interference of the blood supply.

When one has made the diagnosis, what then is to be the treatment? The medical treatment is summed up as follows, in *The Journal of the American Medical Association*, April 10, 1915, page 1242, under Therapeutics: There is no specific antiserum; hexamethylenamin is of no value; hence there is no known medical method of aborting the disease after it has started, and the medical treatment is symptomatic. However the local treatment is what we are most interested in, and the fundamental importance of early treatment is the point that we wish to emphasize.

Mr. Robert Jones² says: "Rigid fixation of spine and limbs gives more relief than any other procedure I know. Indeed, I should make it a general rule that in every case, whether pain be present or not, the head and spinal column should be kept at rest in accordance with the general principles which guide us in the treatment of any inflamed area. The surgeon is often asked when treatment should be started. The answer is that it should begin at once, and during the acute and early convalescent stages the surgical treatment may be summed up in the word 'rest,' if this term be allowed to include the prevention of postural errors, such as tend to give an initial bias toward deformity." In addition to this he calls attention to the importance of placing the paralyzed muscles of the limb at rest and protecting all weakened muscles from strain and stretching. I think it is generally agreed that recovery takes place very slowly if at all in a stretched muscle.

How then are we to prevent deformities? The answer is to prevent stretching of the weak muscles, and not to allow contraction of the stronger muscles. This is best accomplished by placing the legs at rest in a splint with the knees slightly flexed, and in line with the body,

* Read by title at the Fifty-Eighth Annual Meeting of the Missouri State Medical Association, St. Joseph, May 10-12, 1915.

1. Fraser: Amer. Jour. Med. Sc., July, 1914.

2. Jones, Robert: Brit. Med. Jour., May 30, 1914.

with the feet at right angles to the legs, as urged by Gibney and Wallace.³ In the upper extremity the arm should be kept at rest, at right angles to the body, so as to prevent stretching of the deltoid, which is the muscle most often affected in the upper region.

No attempt should be made to obtain active motion or massage the muscles until all pain and tenderness have disappeared. Electricity early probably does more harm than good. After the tender stage has passed active treatment may be begun and should be so conducted as to prevent strain of the relaxed muscles. This means that when the child begins to get about all weakened or paralyzed muscles should be protected or supported. The idea that supporting a weakened muscle produces further atrophy of that muscle is entirely wrong. No weakened muscle can hypertrophy when subjected to constant strain, and the compensation of a normal muscle is only temporary when subjected to constant strain. So that old notion that apparatus prevents their regaining power in the weakened muscles should be entirely forgotten in order that they may be prevented from developing deformities and may be given a chance to recover all that is possible. A large number of the fifty patients had been told that nothing could be done, and it is no doubt true that the family physician often tells the patient that their condition is hopeless, so that he will not have to bother further with them. The result is that most of these patients had consulted many of the illegitimate cures, and in many instances were forced to seek free advice as the result of these experiences. On the other hand, it is just as important, in order to prevent disappointment, to explain fully to our patients that infantile paralysis is a disease of the motor cells of the spinal column and when these cells are destroyed no treatment known can restore them, and that when apparently paralyzed muscles recover, the cells were not destroyed, but merely temporarily out of commission; that we can improve the power in a partially paralyzed muscle very much by exercise and mechanical means, but that we cannot restore destroyed nerve cells. Nathan puts especial stress on this point in a recent article in the *American Orthopedic Journal*.⁴

In tabulating these cases the deformity and operative procedures have merely been indicated, as it is not the purpose of this paper to dwell on results of operative interference. Emphasis has been placed on time of onset, suddenness and age at onset and previous treatment. The list is given in the table and is made up of consecutive admissions.

It will be noted that none of our patients were over 6 years old, and that the youngest was 7 months, and that in ten cases, 20 per cent., the onset began in the first year. In thirty-eight cases, or 76 per cent., the onset was sudden, and in all cases except two, which were afebrile, the attack occurred in the months varying from May to November, with the highest percentage in September. It was not at all uncommon for the mother to volunteer the information suggesting an event and recalling the exact hour of the day that her attention was called to the fact that the child was ill. In seven cases, however, it was not possible to obtain the information, as some of the children were orphans, and sent in from various homes. In three cases the onset was insidious and the child was sick for several days or weeks before paralysis was noted. It was not attempted to get the exact time at which paralysis appeared after onset of fever, but in Fraser's article, previously referred to, he states that three or four days is the average time for the appearance of the paralysis after the beginning of the fever. In two cases there was no attack of fever or sickness of any kind noted by the parent, and observing the deformity was the first that they knew of the child having paralysis.

In this series thirty-three, or 66 per cent., were subjected to operation. These operations could be divided into four groups, viz., stretching, tenotomies, tendon transplantation or silk ligaments, and bone or joint operations, the purpose of the operation being either to correct deformity or secure stability. In many instances it was proved that the deformity was preventable by the fact that the stretched muscles regained power when allowed to relax and be supported for a few weeks. After operations for correction of deformities when the paralysis was very complete and extensive, as in the so-called dangle legs, braces were applied enabling the child to get about, and in only the older cases was arthrodesis practiced. It was impressed on all the patients, when it was impossible to restore muscle balance, as in the curvature cases, that they would need to wear support throughout their growing period in order to prevent bony deformity. As a rule nothing but protection, exercises, etc., were practiced, after correction of the deformity, in the cases in which the paralysis had existed for less than two years.

There was one colored child in the series, Case 3. It is quite curious that colored children are peculiarly immune from this disease, although there are a few cases on record. Dr. D. E. Shy reports one case in the last number of THE JOURNAL of the Missouri State Medical Association, May, 1915.

I wish to present the following rules for the guidance of the general practitioner in the early

3. Gibney and Wallace: Jour. Am. Med. Assn., Dec. 21, 1907, p. 2082.

4. Nathan: Am. Jour. Orthop. Surg., January, 1915, p. 430.

CLASSIFICATION OF FIFTY CONSECUTIVE CASES OF POLIOMYELITIS ADMITTED TO MERCY HOSPITAL

Name and Age on Admission	Date and Age of Onset	Previous Treatment	Deformity	Treatment Required in Hospital
Case 1, L. C., 5 yrs....	Sept., 1910, 7 mos., insidious	Osteopath	Double dangle legs....	Tenotomies and braces
Case 2, C. W., 7 yrs....	In afternoon, Oct. 12, 1911, 3 yrs.	Electrical and osteopath	Valgus and hammer toes	Transplantation of tendons
Case 3, A. J., 7 yrs....	Aug. 13, 1911, p. m., 3 yrs.	Quackery	Curvature and dangle legs	Tenotomies and braces
Case 4, C. Van N., 5 yrs.	July 31, 1912, p. m., 3 yrs.	Electrical	Dangle legs	Stretching and brace
Case 5, H. F., 8 yrs....	July 7, 1910, p. m., 5 yrs.	Osteopath	Dangle arms	None
Case 6, R. J., 21 mos....	Sept. 26, 1913, a. m., 17 mos.	Nothing	Weak leg	Brace
Case 7, H. F., 3½ yrs..	Aug. 12, 1911, a. m., 1½ yrs.	Massage	Equinus	Stretching and brace
Case 8, J. C., 3 yrs....	Nov., 1912, sudden, 2½ yrs.	Operation, appendicitis..	Curvature	Brace
Case 9, L. M., 7 yrs....	September, 1907, 3 yrs.	Osteopath	Valgus	Muscle transplantation
Case 10, O'P., 13 yrs...	August, 1906, sudden, 5 yrs.	None	Curvature	Corrective jacket and exercises
Case 11, E. B., 5 yrs...	Summer, 1910, sudden, 11 mos.	Quackery	Talipes valgus	Stretching and braces
Case 12, M. G., 10 yrs..	Summer, 1905, not suddenly, 2 yrs.	Quackery	Equinus	Tenotomies and braces
Case 13, I. L., 9 yrs....	Summer, 1910, sudden, 5 yrs.	Electrical	Calc. valgus	Astragalectomy
Case 14, P. F., 5 yrs....	Summer, 1911, sudden, 1 yr.	Quackery	Varus and valgus....	Muscle transplantation and shoes
Case 15, N. G., 5 yrs...	August, 1913, sudden, 4 yrs.	None	Dangle leg and equinus	Tenotomies and braces
Case 16, E. P., 5½ yrs..	Summer, 1914, acute, 3 yrs.	None	Weakness of muscles of legs	Recovery without deformity by protection of all weak muscles
Case 17, L. M., 4 yrs...	Oct. 28, 1914, acute, 4 yrs.	None	Weakness of muscles of arms and legs	Recovery without deformity by protection of muscles
Case 18, L. C., 7½ yrs..	July, 1909, a. m., 19 mos.	Everything	Right flat foot.....	Silk ligaments and shoes
Case 19, S. S., 5 yrs....	Sept. 20, 1911, p. m., 2 yrs.	Osteopath	Equinus and weakness of leg muscles	Tenotomy and brace
Case 20, J. F., 7 yrs....	Latter part of May, 1907, sudden, 3 yrs.	Osteopath	Dangle leg	Tenotomy and brace
Case 21, C. B., 4 yrs....	May, 1909, not sudden, 10 mos.	Bought brace	Right dangle leg.....	None
Case 22, E. M., 2 yrs...	September, 1912, sudden, 1 yr.	Told nothing could be done	Marked abduction of right leg	Tenotomy and brace
Case 23, R. S., 3 yrs....	October, 1910, p. m., sudden, 9 mos.	Everything they heard of	Partial paralysis of left leg	Brace
Case 24, R. D., 5 yrs...	November, 1912, sudden, 3 yrs.	Electrical	Equinus	Stretching and exercises
Case 25, L. C., 17 mos..	July, 1913, sudden, 15 mos.	None	Weakness of left arm..	Protection and exercise
Case 26, L. P., 5 yrs....	Summer, 1910, 7 mos.	Everything	Weak legs and arms....	Tenotomy and brace
Case 27, H. B., 8 yrs....	1910, 4 yrs.....	Osteopath	Dangle leg and equinus	Tenotomy and brace
Case 28, M. S., 5½ yrs..	August, 1910, p. m., 15 mos.	Osteopath	Dangle legs	Tenotomy and brace
Case 29, M. M., 3 yrs..	Deformity, no fever, 3 yrs.	None	Equinus	Stretching and shoe
Case 30, A. P., 8 yrs....	Oct. 28, 1909, 3 p. m., 2 yrs.	All kinds	Double calcaneovalgus..	Arthrodesis and braces
Case 31, J. D., 3 yrs....	September, 1913, 2 yrs.	Quackery	Equinus	Tenotomy
Case 32, B. G., 6 yrs....	Sept., 1910, 3 yrs., suddenly fell fracturing clavicle	Bone setter	Equinus valgus and curvature	Transplantation of muscles
Case 33, W. McG., 10 yrs.	Oct. 22, 1909, 3 p. m., 6 yrs.	None	Curvature of spine....	Corrective jacket and exercises
Case 34, Wm. D., 6 yrs.	July, 1910, sudden, 4 yrs.	Previously operated ...	Practically dangle leg and curvature	Tenotomies and braces
Case 35, V. D., 4 yrs...	Oct. 2, 1909, sudden, 2 yrs.	Electricity	Dangle leg	Stretching and brace
Case 36, W. C., 5 yrs...	Summer, 1909, sudden, 18 mos.	None	Valgus	Silk ligaments
Case 37, V. R., 12 yrs..	Summer, 1903, fell from swing, 2 yrs.	Quackery, "Carson" ...	Right calcaneovalgus and left varus	Bone operation and muscle transplantation
Case 38, E. F., 14 yrs...	July 4, 1903, coming home from 4th, 4 yrs.	Quackery	Double dangle legs....	Tenotomy and braces
Case 39, J. E., 13 yrs...	August, 1901, suddenly fell, 4 yrs.	Braces, relapsed	Double dangle legs, weak arms and curvature	Tenotomy and braces, unable to get her to walk
Case 40, B. L., 5 yrs....	Summer, 1909, 1½ yrs.	Inefficient brace	Dangle leg, left arm weak	Tenotomy and braces
Case 41, G. J., 7 yrs...	Oct. 27, 1911, sudden, 4 yrs.	Quackery	Double dangle legs....	Tenotomy and braces
Case 42, J. McC., 8 yrs.	October, 1911, sudden, 6 yrs.	None	Double dangle legs....	Tenotomy and braces
Case 43, H. McC., 3 yrs.	Not known that she had fever	None	Paralytic club-foot	Correction and silk ligament
Case 44, N. D., 9 yrs...	July, 1908, sudden, 5 yrs.	Quackery	Weak legs and curvature	Correction jacket and braces
Case 45, D. McG., 10 yrs.	October, 1909, very sudden, 5 yrs.	Nothing	Equinus	Stretching and shoes
Case 46, D. St. A., 9 yrs.	2 yrs.	None	Double dangle legs....	Tenotomy and braces
Case 47, W. McP., 8 yrs.	Sept. 1, 1908, 1 yr....	Osteopath	Curvature of spine....	Jacket and exercises
Case 48, G. B., 8 yrs....	July, 1913, sudden, 5½ yrs.	Electric treatment	Left leg practically dangle leg	Tenotomy and brace
Case 49, C. F., 3½ yrs..	Early September, 1912, 2½ yrs.	None	Double dangle legs....	Tenotomy and braces
Case 50, L. H., 7 yrs...	September, 1908, 7 or 8 mos.	Osteopath	Left calcaneovalgus and right dangle leg	Whitman and tenotomies

management of these cases. Absolute rest of all muscles in good position during the acute and painful stage, which ordinarily lasts from two to eight weeks; the beginning then of massage, with active and passive motion. Protection by light splints or braces. G. Wilse Robinson⁵ recommends the use of celluloid splints for all weak muscles and allowing the child to get about continuing exercises, until recovery has ceased. This period varies from one to two years. Operative interference can then be recommended according to the condition.

I would like to emphasize the importance of the physician's cooperating with these patients and at all times retaining his interest in them so that they will not have to seek advice on their own responsibility.

CONCLUSIONS

Anterior poliomyelitis is an acute infectious disease, occurring in the summer or fall, characterized by sudden onset with stiffness and rigidity of spinal muscles, and pain and tenderness of all muscles. Protection and prevention of stretching of all weakened muscles is at all times indicated, thereby preventing deformity in many of the cases and hastening recovery.

Nothing can restore the destroyed nerve cells. Recovery of apparently paralyzed muscles always means that the cells were not destroyed. Weakened muscles can be improved, and after two years, operative procedures are of value in establishing muscle balance and securing stability of affected parts.

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DEFORMITIES OF THE FOOT*

STATIC FOOT TROUBLE

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The particular class of deformities with which this paper will attempt to deal may be included under the caption of static foot trouble, which includes weak, flat, abducted, and pronated feet. It is the most frequent of all deformities, forming two-fifths of all orthopedic cases. It is confined to no one class or condition of life and is essentially the product of civilization, being rarely found among savages or barbarians.

In view of its well-nigh universal presence in all grades and conditions of society the in-

vestigator who approaches the subject at this late day would expect to find the treatment at least well established along rational lines and the predisposing causes a matter of common medical knowledge. In both, however, disappointment lurks. The treatment, it is true, is more or less established, based, however, for the most part on erroneous principles and following a pernicious routine from which, either through lack of desire or dearth of knowledge, it seems difficult to escape. The predisposing etiological factors, while easy to comprehend, remain a *terra incognita* not only to the general practitioner but to many so-called specialists as well.

Routine, especially in the diagnosis and treatment of these conditions, is the order of the day. One justly famous orthopedist with a very large clinic never employs a foot brace of any kind in treating these deformities; while another equally famous orthopedic surgeon never treats a case of faulty weight bearing without the use of flat-foot plates. The routine varies and different routines have different results, but the evils of routine exist in all. Indeed, were it not for the fact that routine practice is the curse of present-day methods there would be little or no call for any further invasion of this already crowded field.

The normal, untrammelled foot presents certain well-defined points of identification, easily recognized and universally present. It is slightly adducted and inverted; a horizontal line projected from the heel forward parallel with the inner border of the foot must touch this border at three points, viz.: the inner surface of the heel below and a little posterior to the internal malleolus; the head of the first metatarsal bone; and the inner surface of the tip of the great toe, forming a right angle with the transverse diameter of the foot at the ankle joint. The great toe should be slightly adducted in weight bearing and the major portion of the body weight borne upon the outer one third of the foot. The line of the center of gravity thus follows the crest of the tibia and passes over the dorsum of the foot, between the cleft of the second and third toes, with the inner side of the great toe, the internal malleolus and the inner condyle of the femur lying in the same plane.

Any deviation from the above indicates abnormal conditions which may take the form of a simple abduction of the great toe; abduction of the tarsus proper, with lengthening of the inner border of the foot and consequent lowering of the arch; pronation of the foot, in whole or in part; more or less complete breaking down of the arch, accompanied by spasticity, rigidity and fixation. One, or any combination, of these conditions may exist in the same foot in varying degrees of severity.

5. Robinson, G. Wilse: Jour. Am. Med. Assn., Aug. 29, 1914, p. 773.

* Read at the Fifty-Eighth Annual Meeting of the Missouri State Medical Association, St. Joseph, May 10-12, 1915.

It is the routine practice, not only among the laity, but in the profession as well, to classify all such foot troubles in the category of fallen arches, or so-called flat feet; a classification erroneous in theory and pernicious in practice, as only about 10 per cent. of all static foot conditions are traceable to arch disturbance per se. This particular deformity, as a rule, plays but a minor rôle as a causative factor; it may follow, but never precedes, abduction and pronation. However, the idea almost universally prevails that a weak, painful foot means a fallen arch and requires artificial support more or less constantly worn like a set of false teeth; a fallacy so transparent as to require no refutation, yet so firmly imbedded in the popular mind as practically to defy eradication, and the pity of it is that this pernicious belief is the direct result of routine in diagnosis and treatment.

The predisposing causes, and for that matter the exciting causes in the majority of cases, are those which favor the position of abduction or weakness or pronation. These are (1) the use of improper footwear; (2) walking and standing with the feet turned out.

A congenitally weak foot will abduct and pronate under weight-bearing, regardless of the kind of footwear employed. Such cases must, of necessity, be fortified by other agents in addition to a proper shoe, but they form a very small percentage of the cases coming under our notice. An examination of the feet of about two hundred children under five years of age made by the writer demonstrated that only 3 per cent. were born with weak feet. Not until the child discards its baby shoes and dons the footwear of the adult do symptoms of static foot trouble, as a rule, appear.

The correct shoe should conform to the shape of the normal foot; in practice, however, the foot is made to conform to the shoe, regardless of imperfections. Practically all civilized foot-gear have one great fault in common, i. e., the inner border of the shoe does not conform to the inner border of the foot, but markedly diverges outward from the median line thus forcing the great toe into mild valgus, thereby depriving the foot of its legitimate support; the support that should prevent the foot from rolling over and pronating.

The correct position in standing and walking is with the feet parallel, the first metatarsal bone and the great toe slightly adducted, the long axis of the foot pointed directly to the front. In this position the inner edge of the great toe, the internal malleolus, and the inner condyle of the femur will lie in the same plane and the center of gravity will remain normal. This position gives the maximum of strength, agility and poise with the minimum of fatigue,

and the major portion of the weight falls upon the outer border of the foot. It is obvious that walking and standing with the toes turned out violates all these principles. In such a position the inner malleolus moves downward and backward; the outer, forward; accompanied by lengthening of the inner border of the foot, flattening of the inner longitudinal arch, and appreciable diminution of the concavity of the inner border of the foot. At the same time the transverse arch is flattened, the heads of the third and fourth metatarsal bones are forced downward, touching the ground, and the foot broadens. It can readily be seen that a persistence in this attitude of abduction would in time eventuate in pronation with all its attendant ills regardless of the original integrity of the foot. In fact, the condition known as flat-foot is in reality secondary to and of less import than the changed relations of the axis of the foot with the axis of the leg caused by abduction and pronation.

In other words, abduction is the primary, the lowering of the arch the secondary, element in the evolution of these conditions. Nor do the symptoms encountered bear any constant ratio to the deformity as such, nor have they any proportionate relation to its degree. The changes in the bones, muscles and ligaments found in long standing cases are but secondary and incidental to abnormal functional use; varying with the original structure of the foot, the abnormal strain to which it has been subjected, and with the duration of the disability.

Age of Onset.—The time of onset is usually from the fourteenth to the twentieth year, when the feet are first subjected to occupation strain.

Sex.—This condition is more prevalent in the female in the proportion of about 67 to 42 (Tubby).

Exciting Causes.—There are four conditions which may be cited, in addition to those mentioned, as predisposing causes: (1) deficient support due to congenital or acquired abnormality or to structural weakness; (2) deficient power, such as muscular weakness; (3) overstrain and overweight, wherein the burden is too great; (4) imperfect weight adjustment due to incorrect attitudes which subject the foot to mechanical overstrain in the performance of its function.

Symptoms.—The chief symptoms are pain, tenderness, swelling, disability and deformity.

Pain is usually the leading symptom and the first to cause the patient uneasiness. It is present in some form in about 95 per cent. of all cases. It may be confined to the feet only, to the feet and lower limbs, and lastly to the legs alone. The usual seat of pain is about the astragaloscaphoid articulation, the heads of the

metatarsal bones, the entire sole of the foot, and the calf of the leg, in the order named. It bears no constant ratio to the degree of deformity, but seems to be more dependent upon the rapidity of change in the affected parts. Its character is not uniform; one case may complain only of a sense of fatigue; another of a dull aching; still another of sharp, lancinating pains. All these varieties may be present at different times in the same patient.

The points of tenderness in the order of their frequency are the center of the heel, the astragaloscaphoid articulation, the sole of the foot, and beneath the head of the first metatarsal bone.

Swelling and edema are often present, especially in chronic cases, though by no means a constant symptom. Its presence is more dependent on the amount of standing and walking than on any pathologic change.

Disability.—The disability takes the form of lameness, due to pain and swelling, loss of mobility, restricted inversion and adduction, loss of power of dorsal flexion, and a clumsy, inelastic, heel-walking gait.

Deformity.—The three distinct types of deformity which may be present are (1) the abducted foot with a well preserved arch; (2) the abducted and pronated foot with a partially lowered arch; (3) the abducted and pronated foot with the arch completely down, the true flat-foot.

Pathologic Changes.—(1) The abnormal strain first affects the flexor longus hallucis; as abduction increases, the flexor longus digitorum and the tibialis posticus are involved. Here pronation first becomes apparent, causing relaxation and elongation of the plantar fascia and ligaments—the inferior calcaneoscaphoid, the short calcaneocuboid and the deltoid ligaments. Changes in the articular relations of the bones follow *pari passu*. The most pronounced being the astragaloscaphoid joint, where the head of the astragalus is depressed downward, inward and forward; the tubercle of the scaphoid inward and downward, and the internal malleolus inward and forward. (2) The line of the center of gravity is shifted outward and the inner malleolus, the head of the first metatarsal bone and the inner condyle of the femur no longer lie in the same plane. (3) The cuboid is pressed against the calcaneus above and may become ankylosed, but this joint is widened below and the os calcis may be so everted that a new joint is formed between it and the fibula.

Diagnosis.—The early diagnosis of static foot trouble should present little or no difficulty. True, there are no early pathognomonic signs, but abduction and pronation, more or less

marked, are always present in any form of static foot trouble, which, taken in conjunction with the age, character of the onset, previous history and the absence of constitutional disturbances, should enable the physician to differentiate these cases with but little risk of error. Arthritis deformans, tubercular osteitis, and painful lipoma of the feet may sometimes cause confusion, especially when one attempts a lightning diagnosis. If the attending physician will only keep constantly in mind the possible presence of these conditions in every case of foot trouble he is called upon to treat, diagnostic errors will be comparatively rare.

Treatment.—The most important factor in the treatment of these conditions is to avoid routine; of far greater import this than the merits or demerits of any particular system. It goes without saying that every case of static foot trouble, of whatever kind, is a law unto itself and demands the same individual differentiation accorded by the oculist to those suffering from defective vision. As there are appreciable physical differences in every normal foot, and as practically no two deformities follow the same pathological lines, there should be the same individuality observed in their treatment.

The next step is the use of proper foot-gear and correct habits in walking and standing. Support in the normal position and the development of weak muscles through massage and exercise are the lines along which our treatment should run, and these can be attained only by the right kind of shoe upon a foot trained to stand and to walk in the right way. The best exercise for a weak and deformed foot is correct functioning in proper foot-gear.

The forces operating to produce adduction and inversion of the feet come into play at three points: on the inside opposite the metatarsal joint; on the outside opposite the head of the fifth metatarsal bone; and on the outer border of the heel. The outer border of the foot is slightly convex; the inner border straight or slightly concave; the transverse arch intact, and the weight for the most part borne on the outer third of the foot. The shoe, therefore, should be made to conform to this outline. The greatest depth of the upper over the great toe, in front; the width at least that of the weight-bearing portion of the foot under its full burden; the posterior portion should fit snug over the instep, not stiffened beyond the mediotarsal joint, and the heel rather low and at least as broad at the tip as the width of the calcaneo-astragaloid articulation. The forward sole should be flat and not convex downward; the shoe should always be blocked high over the toes. It is also advisable to have socks or stockings made into rights and lefts to fit the foot with a separate space for the great toe.

Exercises.—(1) Correct walking and standing are the most valuable of all exercises, not only for strengthening the foot, but to prevent deformity as well. (2) Insist upon the patient's practicing inverting movements of the soles, and especially adduction of the great toes. (3) Tip toe exercise with the feet well to the front and the great toes adducted strengthens the muscles, but it should not be undertaken if the feet are weak or broken down. (4) Plantar flexion, followed by dorsiflexion, with the limb extended and the patella to the front, is another beneficial exercise. The patient should sit at all times with the feet inverted and the weight falling on the outer border of the foot. (5) Passive movements and massage are especially useful in the spastic and rigid varieties, followed by strapping with adhesive tape in the inverted position.

Apparatus.—Under the head of apparatus can be grouped arch supporters, valgus plates, spring steel insole plates, and flat-foot leg braces, which will be considered in the order named.

1. Arch supporters may take the form of pads of cork, vulcanite or leather, sewed into the sole of the shoe. They are usually inaccurately molded, too unyielding, causing pain from pressure, and they fail to take into account, or prevent, spreading of the anteroposterior transverse arch.

2. Metal sole plates consist of a piece of metal hammered out to fit the inner longitudinal arch. They are held in position by elastic bands passing over the dorsum of the foot or are worn loose in the shoe. These have all of the defects of the fixed pad and none of the virtues, if there are any.

3. Valgus plates are devices which go a step farther than the above and attempt to correct the abduction and pronation as well as supporting the arch. The best known and perhaps the most efficient of these is the Whitman valgus plate. This device is only suitable for those cases in which the foot is still flexible and admits of passive adduction without pain and in cases of flabby flat-foot in which there are no bony prominences on the inner margin. They should never be employed in spastic conditions or where rigidity is present in any degree. Their legitimate field is rather limited and if intemperately or untimely used will do far more harm than good.

4. Spring steel insole plates consist of pieces of spring steel molded to fit the soles of the feet and placed in the insoles of the shoes. They should have enough spring to give with the body weight and to resume the normal position after this weight is removed. Their advantages are: (1) They do not offer a hard,

unyielding surface to the damaged arch; (2) being an integral part of the shoe, they retain their normal relation with respect to the insole and prevent it from undergoing the same deformity as the foot. In all other forms of support the shoe eventually retrogrades into the same deformity it attempts to correct. These devices make no attempt to correct the valgus, which should not be the province of any such mechanical support, their function being merely to reinforce the insole and give passive support to the arch.

5. Flat-foot leg braces consist of a metal shank inserted into the shoe between the sole and the heel and fastened around the middle third of the leg by a leather band. They can be adjusted so as to throw the shoe into, and maintain it at any degree of, supination desired. In long-standing deformities they are a valuable adjunct to the treatment and many such cases cannot be successfully corrected without their use. The serious objection to the leg brace is that dorsiflexion is limited and the movements of the foot in general are curtailed.

Many other patterns of braces and supports could be mentioned, all more or less alike in principle and possessing about equally distributed faults and virtues. It can be truthfully said of all arch supports of whatever kind that they are but temporary adjuncts in the treatment of these conditions; rarely if ever curative, and if persisted in progressive deterioration uniformly results.

In spasmodic, rigid and fixed forms of static foot troubles it is absolutely useless to attempt any treatment with mechanical appliances until these conditions are removed; and herein lies one of the grave errors of routine. Any corrective agent is good if applied to the right case, and conversely, the best of them are worse than none if wrongfully invoked. It were far better for the physician to forego artificial appliances altogether than to attempt their use unwittingly. Should they be invoked and fail to ameliorate the symptoms one may rest assured that either the wrong appliance is being used or none is required in that particular case and they should be discarded at once.

It is impossible, within the limits of this paper to lay down specific rules for the treatment of these cases; each is a law unto itself to be studied individually and presupposes on the part of the attending physician a certain amount of technical knowledge relative to the structure of the foot, the mechanical principles involved in the discharge of its function, and of the pathological changes that necessarily follow abnormal weight-bearing. A lack of such knowledge, as a matter of course, means failure, regardless of the agents or methods employed.

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SPASTIC CONSTIPATION*

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The theme of my paper is one of great interest. I do not intend to attempt to give any original facts, but merely to review a few essential points. Probably no phase of constipation presents less literature, and no phase, to my mind, is so important. And yet with all our so-called knowledge of constipation we are prone to let these cases go without a proper diagnosis.

To go into detail involves a close study from a psychological, neurological, physiological, pathological and anatomical aspect. In this brief résumé I will not attempt to discuss it in all its manifestations, but merely give a few statements in regard to this important condition.

Some classify spastic constipation as a symptom, some as a separate disease or entity, others as a symptom-complex, but I am inclined to think of it as a neurosis. Associated with this we have a spastic condition of the lower alimentary canal. I think this spasm is generally a secondary manifestation, but whether it is caused reflexly through the higher nervous system and centers, through the simple arch or by chemicophysiological changes in the intestinal muscle, I cannot say. Since I do believe it is secondary, with this in mind I discuss the subject under the following heads in order to bring out the etiological factors, symptoms, etc.: (1) important facts obtained from a good past history; (2) important facts obtained from a good present history; (3) important facts obtained from a good physical examination, and (4) treatment.

It goes without saying that very few conditions do not demand a good past personal history. If we do this we are likely at times to obtain these following points: The family history often presents neurotic predispositions which are superimposed on the offspring. A careful history of early childhood will often present digestive disturbances as a result of poor nursing, bad hygiene and improper feeding. Scarlet fever, measles, diphtheria, etc., at times leave bad foundations for a child.

It is well to question closely about the psychological and neurological phases, as it is in this regard that all are acquainted with the effect these later conditions have on the physiology of the alimentary canal. Incidentally, rule out any cardiovascular and genito-urinary abnormalities. It is a well-established fact that various myocardial and endocardial affections, for example, mitral stenosis or insufficiency, are associated with neurotic manifestations and

abnormal alimentary physiology. The genito-urinary system is known to cause changes directly and reflexly in the digestive system and produce neuroses.

It is with patience that we rule out all past abnormal conditions that may have been associated with the digestive system and be at the root of the trouble. The manner of habits, in so far as to the amount of food, kind, how masticated, etc., is an essential point. It is important to rule out any motor or sensory phenomena as hypersecretions or hyposecretions, hypermotility or hypomotility and other physiological abnormalities that may have been associated with the stomach. It is with patience we get good histories of any probable conditions as ulcers, gallbladder affections, pancreatic calculi, atonic constipation, acute and chronic enteritides, floating kidney, appendicitis, etc.

It is futile to detail further as all know well that any of the above and many other conditions may be a predisposing or causative factor of the neuroses.

If any of the above or other conditions are found to have a close relationship it is advisable to follow them up closely. If, for example, there is present a history of a neurasthenia, psychasthenia or a hysteria, it is well to determine whether these are secondary to this neurosis and constipation, secondary to some other condition or this spastic condition secondary to neurasthenia, etc.

Now that the essential facts have been obtained in the past history as pertains to the affection, we come to a more important phase, namely, the present complaint.

In the present complaint the patients will usually come in with their probable diagnosis, namely constipation. They may have the acute or chronic form. In the acute form they suffer from more or less severe abdominal pain. This they often describe as "gripping," "gas," "colic," etc. This is especially true in the region of the cecum and is relieved by pressure. Often this pain is exaggerated by the use of cathartics, and may stimulate vomiting, simulating appendicitis. He will in his own words describe a feeling of malaise, lassitude; but, generally "nervousness" is present extending over a period of months or years, and often dates the onset back to some condition as stated in the past history. As a rule the appetite is good and he has been instructed to eat apples, oranges, vegetables, etc., in order to leave a large residue in intestine, when as a matter of fact, these substances exaggerate the affection. When asked regarding the stool we usually find that it is hard and globular, namely scybalous and very irritating to rectum and anus. At times there is present much pain and unsuccessful desire at time of defecation. Oftentimes

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these hard masses are followed by a small amount of liquid stool. Associated with this, especially following a cathartic, is not the large copious stool as in atonic constipation, but the well-known "ribbon-like" stool. The more general symptoms are those associated with the intoxication resulting from poor elimination.

Now that I have briefly touched on a few points that may give a clue to the etiological factor and help establish a diagnosis, I can think of no condition that more demands a good physical examination. Since we have so many causative factors and an abnormal condition a good physical examination is *sine qua non* to a diagnosis.

The first system in our examination we rule out is the pathological-neurological side of the nervous system. It is well known that affections of the upper neurones and centers have an inhibitory property and if disturbed cause spasticity of the tissues supplied by the lower neurone. The cardiovascular and genito-urinary system must be examined as for reasons stated above. The respiratory system must not be overlooked for oftentimes it indirectly causes manifestations that may be at the foundation. Incidentally do not let any of the internal secretory glands cause one to go amiss. Now having ruled out all abnormal conditions of above systems we come to the more important, namely, the alimentary canal.

This examination should rule out bad teeth, affections of oral cavity, pharynx and esophagus. These are not so important as our famous indicator of almost all affections, the stomach. Since it may cause so many abnormal results, any abnormality should be diagnosed and corrected if possible. The motor and sensory phenomena should be ascertained. Any pathological conditions as the gastritides, ulcers, cancers, etc., must be alleviated if possible. While using the stomach tube, the size and position of stomach should be made out. Often the above can be settled by means of Roentgen ray and fluoroscope. As we descend, ruling out pancreas, liver, duodenal disease, the intestines call for greater focus of attention. Here lies our trouble and here must be decided whether there is present an atonic or spastic constipation and incidentally ruling out Hirschsprungs disease, kinks, adhesions, ulcerative conditions, appendicitis, mucous colitis and other disorders.

It is at this point that I would lay stress on the palpation of the colon. Spastic constipation may affect any portion of the colon. One part may be spastic and another atonic. So I would begin at the cecum, and often we find this and the ascending part dilated. The transverse colon usually does not present much, except in so far as it may be abnormally situated. As we come to the descending colon and the sig-

moid we often find the spastic condition. By spastic I mean that it feels like a rope under the fingers. At times this spasm may release under the fingers, but often it is best to examine it at different intervals and in almost every case you find this phenomenon.

At this point an important condition to rule out is sigmoiditis, as it often simulates this condition. Since this and the spasm may occur in other parts the Roentgen ray and fluoroscope are valuable assets to a good examination.

The colon being thoroughly examined, the rectum and anus next call our attention. At this time all conditions that are associated with them must be looked for, as many conditions at this locality stimulate the neuroses. Rule out prostatic abnormalities, carcinoma, strictures, ulcers, fissures, malpositions, etc. The proctoscope and sigmoidoscope give valuable information, but if not used, do not neglect the finger. With it most of the above can be ruled out, and of importance is the tenderness and spasm of rectum and anus that are usually present.

In connection with this examination a stool examination, macroscopic, microscopic and chemical, is of the utmost importance. The form of stool as mentioned above is usually found and often associated with blood and mucus.

Now, since I have gone briefly over such an important subject and the etiological factors and symptomatology have been touched on, the treatment I will take up briefly. This, of course, will have its individual followers but I will suggest a few points that may be of interest.

First, I would explain the physiology to the patient, as it is with this in mind that he will better follow out instructions. In this regard one must choose his patients. I would not so advise this if he is so psychologically situated that he would center "mind" on his condition and make a neurasthenia worse or exaggerate a psychasthenia. Second, in this regard, I would mention special treatment of the neuroses when pronounced. This can generally be eliminated by the Weir Mitchell rest cure, modified to suit the case. Associated with this, practice psychotherapy, whether it be the reeducation of Dubois, psychoanalysis of Freud or plain encouragement. Build up the general condition and correct any abnormality that may be present, whether it be medical or surgical.

For local and general measures the diet is of importance. Briefly, use any simple, easily digested and nourishing diet. It must contain no hard or coarse substance. For example, use meats sparingly, avoid fruits and vegetables that leave an excessive residue, as they irritate the colon and increase spasticity. Use freely,

sweets, butter, cream, etc. Drinks are not to be cold. These are the general principles and they can be added to accordingly.

The drug treatment plays an important part for a limited time. At first the bowels may be rebellious. For this condition I recommend a mixture of castor oil and glycerin to be taken in small doses at frequent intervals until a movement.

Another mixture that Bettinan, in works of Forscheimer, recommends and I think well of consists of belladonna, chloroform and valerian to be given to physiological effect. In this neurosis and spastic condition of intestine, the valerian acts as a sedative and belladonna is conceded by all to relax spasm in the smooth muscle of the intestines.

If the sphincter is still spastic after the above measures, some recommend dilatation digitally, but I have found that the olive oil injections will usually alleviate this condition, and if the sphincter is not necessarily spastic the injections are of utmost importance. They consist of injecting 4 to 8 ounces of warm olive oil prior to retiring. It is retained all night and expelled at a regular hour in the morning. If this is regularly done and above mentioned procedures followed out, the tender anus will soon disappear, the spasticity of colon relax, and nervousness subside. The amount may soon be diminished and the desired end, namely, a regular morning bowel movement, will soon be accomplished.

THE OPERATIVE TREATMENT OF SQUINT *

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The operative treatment of squint, though older in practice than the non-operative treatment, has not been greatly improved as to results since the first operation, tenotomy, was devised and so extensively practiced in the days before refraction and its relation to squint were generally understood. Progress in the operative treatment has consisted in the development of the operation of advancement and its substitution for tenotomy, and in establishing the limited indications for the operative treatment. The great progress has been in the non-operative treatment, consisting in the correcting of errors of refraction with glasses, atropinization of one or both eyes, the occlusion bandage, and orthoptic exercises. The non-operative treatment has developed to such a degree that the results obtained in cases amenable to this treatment leave little to be desired; perfect cosmetic results

being usual, and perfect functional results frequent. Fortunately, the great majority of cases of concomitant squint yield to non-operative treatment if the treatment is begun in the early years of childhood while the squint is purely concomitant, and before anatomic changes consequent on the deviation have developed. Nearly all cases of concomitant squint occur in young children; the majority of these cases are convergent squint dependent on errors of refraction, and yield to non-operative treatment. Operative treatment is limited to paralytic squint, divergent and vertical squint, which are not amenable to non-operative treatment, to old cases of concomitant squint, which through neglect of treatment in the early years have become anatomical, and to the cases with congenital maldevelopment of muscles. These constitute a considerable percentage of the cases of squint and cannot be improved by other means than operation.

From the general condemnation of simple tenotomy in the literature, and the advocacy of the many variations of advancement, one would think tenotomy an obsolete procedure. As a matter of fact, however, it is probable that tenotomy is more frequently practiced than advancement, in spite of its uncertainty and inaccuracy of results, because of its ease of performance, short period of convalescence, and good immediate results in nearly as large a percentage of cases as are obtained from advancement. The objections to tenotomy are the small amount of effect on the deviation, the lack of control of the effect within its possible limits, the frequency of no effect and of insufficient effect, and the rather frequent occurrence of late overeffect to an excessive degree. An experienced operator can escape bad results in the majority of cases, but can never be sure. The muscle tendon is severed at its attachment to the globe and allowed to retract to an uncontrolled degree. Where reattachment to the globe occurs, or whether it occurs at all, is a matter of chance, entirely out of control of the surgeon. Procedures for control of the reattachment have been suggested from time to time, but have not been much practiced; guy sutures are used to diminish or increase the effect of tenotomy, but still to an unknown and uncontrolled degree. The obviously rational method of suturing the divided tendon in the desired position seems to have died by default; probably because the difficulty of its performance and increased traumatism rob the tenotomy of its greatest attraction, viz., ease and rapidity of performance, slight traumatism and pain, and short period of convalescence.

Advancement is apparently much superior to tenotomy in the matter of control. The severed muscle tendon is sutured to the globe in the place where reattachment is desired. The im-

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mediate effect, at the time of operation, when the sutures are firmly in place and the tissues fresh, is perfect, and under complete control of the operator; but the muscle tendon is very thin and delicate, the sutures can include only the superficial layers of the sclera and must be tightly tied, and there is great and constant traction by the stretched muscle. After the first day the softening and yielding of the tissues included in the sutures diminish the effect of the operation to an unknown degree. It is customary to overcorrect the deviation in order to allow for this inevitable decrease of effect, and this overcorrection adds to the traction on the sutures and tissues. It is not easy to know how much overeffect is necessary. Tenotomy of the antagonist abolishes the greater part of this traction, but adds the uncertainties of tenotomy to those of advancement.

The many variations in detail of the operation of advancement are efforts to simplify the operation, or to secure firmer attachment of the advanced tendon with less liability to subsequent retraction of the tendon. With the view of simplifying the operation and making it shorter and with less traumatism, the different forms of the single suture have been devised. They are easier of performance and involve less operative traumatism, but are less efficient in producing the desired change of position of the eye than those methods in which two or more advancement sutures are used. The single suture produces more or less crumpling of the tendon with less smooth and perfect contact of tendon with sclera than is obtained by the use of two sutures, which spread the tendon instead of crumpling it. Efforts to secure firmer anchorage of the advanced tendon to the sclera have inspired many variations in the manner of placing the suture in tendon and sclera. Worth, for instance, ties the suture to the tendon before attaching it to the sclera and also includes in this suture, conjunctiva and Tenon's capsule. Firm anchorage to the sclera is sought by placing the sutures as deep as possible, but more frequently by carrying the sutures a long distance to points above and below the cornea in the vertical meridian, quilting or reefing the sclera on the way. Care must be taken that greater traction on one of the sutures does not cause vertical displacement of the tendon. Suturing the tendon directly to the sclera at the point of contact avoids the possibility of postoperative vertical displacement and insures more perfect union because of the local reaction produced by the sutures. For perfect accuracy of vertical position, it is desirable that the sutures be in place before the tendon is severed from its original attachment to the sclera. For securing firm anchorage of the advancement suture, it has been suggested that

the suture be passed through the sclera into the anterior chamber. This is mentioned only to be condemned. No operation for squint is justifiable which involves any risk of loss of the eye or its vision, however low the vision may be. True, there is the possibility of infection and serious results from the usual methods of operating for squint, but this possibility is so slight as to be nearly non-existent in comparison with the dangers inseparable from an operation involving perforation of the globe with instruments or sutures. The tucking operations devised in the hope of both simplifying and strengthening the operation, have the same fundamental fault of advancement, viz., traction on the fixing sutures, and consequent uncertainty of effect. Their merit consists in the less degree of failure possible in case the sutures should give way entirely. Resection of the tendon with suturing to the tendon stump rather than to the sclera is no simpler than advancement and not so strong.

The advantages of advancement over tenotomy are the certainty of diminishing the deviation and the practical impossibility of producing any overeffect. The disadvantages are that the operation is much more extensive and much more difficult of performance, requires much more time, is more painful, and requires a longer period for convalescence with several days of binocular bandaging. Its superiority of results, if the occasional occurrence of overeffect of tenotomy could be excluded, is hardly sufficient to justify the more formidable operation.

In both tenotomy and advancement anatomical changes produced by the operation are such as to make subsequent operation doubly difficult and doubly uncertain in results. It is therefore desirable that any operation be so accurately planned to the needs of the case as to be final.

Technically, the traction of the advanced muscle on the fixing sutures is the cause of the deficiency of advancement operations. The surgical rule that sutures must be free of traction is violated to an extreme degree. Stretching or partial tenotomy of the antagonist muscle are not sufficient to relieve this traction. Even complete tenotomy of the antagonist, relieving most of the traction, leaves a considerable amount due to the abnormal position of rest, which has become a position of deviation in those cases properly subjected to operative treatment.

The position of rest is that position of the eyes under the influence of the muscles at rest, the orbit and its contents, without influence of nerves or of vision or of fusion sense; the anatomical position free from functional influence. By analogy with the term "static refraction" the position of rest may be called the "static position" of the eyes. The position of rest may

be orthophoria or any variety of heterophoria, and can be modified to a limited degree by functional influences, most of all by accommodation excess causing convergence excess. If constant functional deviation exists for a long time, anatomical changes are brought about in muscles and orbital contents which make the position of rest approach that of the deviation to a partial or complete degree. A squint can then be wholly functional (or concomitant) or wholly anatomical, or partly functional and partly anatomical. That part of the squint which is functional will yield to nonoperative treatment; that which is anatomical can be influenced by no means except operation.

Operative treatment should be limited to that portion of the squint which is anatomical and never applied so as to affect the functional portion of the squint, and never as a substitute for non-operative treatment. The conditions indicating each form of treatment are well defined and the limits of each should be exactly observed, neither being allowed to encroach on the field of the other. Before any operative treatment is considered it must be determined how much of the deviation is anatomical and operative treatment limited to this portion. This can be determined only by the non-operative treatment, which, properly applied for a sufficient period of time, abolishes all of the squint which is functional, leaving only that which is anatomical. This may require several months, but never so much as a year; and once the limits of the functional and anatomical portions of the squint are determined, operation should be done without delay. While anatomical squint can develop from a constant functional squint, alteration of the functional influence cannot diminish the part of squint which has become anatomical. The operative treatment should not be considered a last resort to be applied only after failure of other treatment, but has its well-defined field and gives the best results if applied without unnecessary delay.

The deficiency of the prevailing methods of operation consists in lack of control of effect; in tenotomy because of the entirely uncontrolled point of reattachment, and in advancement because of alteration of immediate effect by traction on the sutures. The traction on the advancement sutures cannot be materially reduced except by tenotomy of the antagonist muscle; and control of the tenotomized muscle is possible only by suturing the tenotomized muscle to the globe in the desired place.

The contention that squint is a binocular defect involving the two eyes equally, and that therefore the treatment, operative or otherwise, should be applied equally to the two eyes rather than to only one, is true of functional, but not

of anatomical squint. The deviation which is anatomical involves only the deviating eye, and consequently operative treatment should be applied only to this eye. Alternating squint, and the different varieties, of heterophoria are to be regarded as functional, and operative treatment, when indicated, is best applied to both eyes.

The following method of operation, which I have practiced with good results, gives perfect control of effect of both advancement and tenotomy, at the expense of only slight additional operative traumatism, and seems as uncomplicated as is possible for the accomplishment of the desired result.

A vertical incision is made in the conjunctiva about 2 mm. from the limbus, and the conjunctiva dissected up to the limbus and toward the canthus sufficiently to expose the muscle tendon. The tendon is outlined and freed from the sclera behind its insertion, but the insertion is not disturbed (Fig. 1).

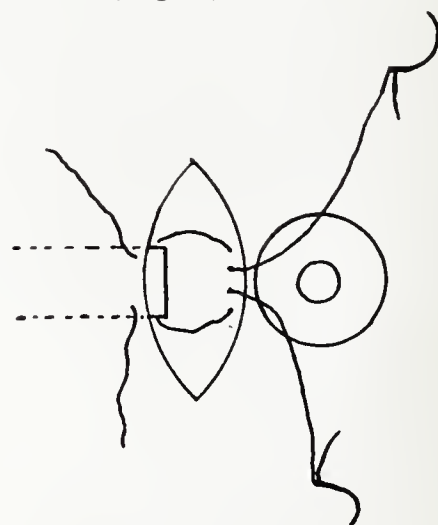


Fig. 1.

A suture is passed through the conjunctiva at the canthal border of the conjunctival incision, at the upper border of the muscle tendon, and through the extreme upper border of the tendon, a hook under the tendon raising it from the sclera sufficiently for the accurate placing of the suture; then into the sclera at the limbus under the conjunctival flap, from above downward, including about 2 mm. of the superficial sclera in its bight. A similar suture is passed through conjunctiva and tendon at its lower border, and in a corresponding portion of the superficial sclera near the limbus, below the first suture. The tendon insertion being not yet severed, these sutures can be placed with perfect accuracy.

At this stage the advancement is interrupted and the recession of the antagonist muscle is done as follows (Fig. 2):

A horizontal incision is made in the conjunctiva over the middle of the tendon and the tendon exposed and freed from the sclera behind its insertion, but the insertion not disturbed. A suture is passed from before backward through the conjunctiva at the upper (or lower) border of the conjunctival incision backward from the tendon insertion as far as it is desired that the new attachment shall take place. This distance should be measured, so that the displacement

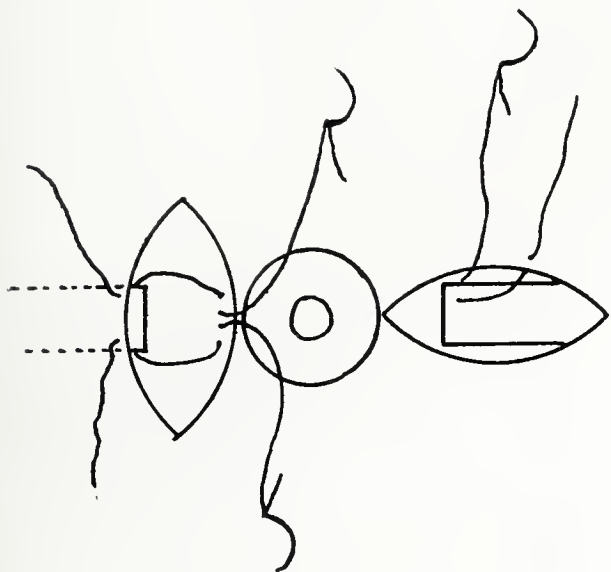


Fig. 2.

insertion the desired displacement distance plus 2 mm., including about 2 mm. of superficial sclera in its bight, then forward through the lower third of the tendon and 2 mm. from its cut end, and then forward through the lower lip of the conjunctival wound. This suture includes conjunctiva, muscle tendon and sclera, and when tied attaches the tendon to the sclera, and closes the conjunctival wound. The advancement of the antagonist is now completed. The tendon, held with the forceps or with guy sutures, is severed at its insertion, the two sutures passed forward through the muscle tendon and conjunctiva, as shown in Figure 3.

The tendon is drawn forward and the sutures tied, the tendon being attached with two sutures to the sclera in the advanced position, and the conjunctival wound closed, and the flap of the conjunctiva at the limbus being spread over the tendon and secured with fine sutures if necessary. Both eyes are bandaged, and the sutures are removed in eight days.

WHY REMOVE THE TONSIL?*

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To discuss this important and interesting subject it is necessary to have at least a thinking knowledge of the anatomical situation of Waldeyer's Lymphatic Ring. Waldeyer's lymphatic ring is composed of the two faucial tonsils situated on the lateral walls of the pharynx between the anterior and posterior faucial pillars, bounded above by the plica tonsillaris and below by the base of the tongue; and that lymphoid bridge connecting the faucial with the lingual tonsil; and also of the epipharyngeal tonsil, commonly known as adenoids, found on the posterior epipharyngeal wall above and posterior to the soft palate; the lingual tonsil at the base of the tongue and numerous lymph-nodes situated on the posterior pharyngeal wall. These lymphoid masses then are Waldeyer's lymphatic ring, and the most important structure for our consideration is the faucial tonsil, because of its manifold and telling effects upon the human system when it is diseased.

A histological study of the tonsil shows its structural anatomy to be that of multiple lymph-nodes (noduli lymphatici) confined within a definitely arranged connective tissue stroma. The upper surface is covered with epithelium containing pocket formations which sink into the tonsil substance. These crypts open upon the surface of the tonsil and are known as

backward of this muscle may be the same as the displacement forward of the antagonist to be advanced. The suture is then passed from before backward through the upper third of the muscle tendon at 2 mm. from its insertion (allowance for this 2 mm. must be made in placing the conjunctival and scleral portions of the suture). The tendon, now being held in the forceps or a guy suture, is severed at its insertion and allowed to retract. The suture is then passed into the superficial sclera at the proper point, which is backward from the original

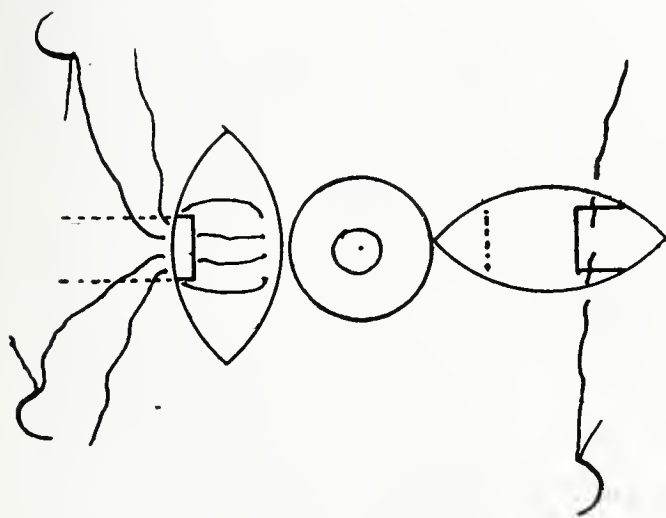


Fig. 3.

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fossulæ tonsillares, Von Ganghofer and Trautmann found five to seven nodulations between which were three to five recesses or crypts, the middle one, or recessus medius, being the most important because of its size and depth, often extending to the tonsillar capsule. The under surface of the tonsil is lined with a thin but dense fibrous capsule connecting it with the lateral pharyngeal wall, through which penetrates the blood vessels and lymph vessels supplying the tonsil.

Knowing the tonsil structural anatomy, we may now glance at its function, because without this knowledge we are unable to assume either a radical or conservative attitude toward it. Unfortunately, there is but little known about the physiology of the lymphatic ring, and all that is known about the tonsil is more or less an hypothesis. For example, it has only been surmised that a digestive and a sugar fermenting process exists in the tonsil, but that it has a marked absorptive function cannot be denied. Stœhr has demonstrated, as a direct secretion from the tonsil, an out-wandering of lymphocytes through the epithelium as small bodies in the saliva, and as a result of Metchnikoff's discovery of phagocytosis, we see that this lymphocyte migration occurs as a protection against bacterial invasion at a point where, due to the union of the air and food passages, infection is made most possible. Frederici sees in the tonsil an avenue of escape for microorganisms in the blood and lymph streams, since after injection into the blood of bacteria and coloring matter, he found them in the lymphocytes that had wandered from the tonsil into the mouth. Schœnemann considers the lymphatic ring only as a subepithelial-placed lymph gland, on the one hand acting as a protection against infection, while on the other, serving as a point of entrance for infection; and he calls the tonsil the "physiological wound" for the point of entrance of the infectious diseases, such as scarlet fever, diphtheria, measles, acute articular rheumatism, epidemic cerebrospinal meningitis, etc., and as also the primary point of infection for tuberculosis of the lymphatic ring.

Fleming, Paulsen, and Polyak have demonstrated the formation of leukocytes due to karyokinesis in the tonsil and suggested that the involution of the tonsil taking place at the end of the growing period causes, simultaneously with this involution, a transference of the blood formation function to the bone marrow. The injection of tonsil extract with the view of determining its physiological function has produced no practical results in the hands of Masini, Schleyer, and Pognat. Hagemann offers the hypothesis that the tonsils are prob-

ably vestigial organs of respiration and that they are a modified form of gills or branchiæ surviving from the amphibious period of man's descent; while Digby classes the tonsils with Peyer's patches in the small intestines, and the vermiform appendix, calling them subepithelial glands, and says that these structures, due to their antibacterial activity, produce a continual autovaccination, thus protecting the body against chance infection. Lymphocytosis takes place and a great excess of specific bacterioly-sins and antitoxins are also produced which enter the system and combat the attack at a more vulnerable point. However, Bramson's studies on the relation of the tonsil to the lymphatic system, on the other hand, show that the defensive function of the tonsil is very slight.

This casual survey of the physiology of the tonsil has shown us, in a vague way, that the function of the tonsil, although indefinitely known, must be considered under the following heads: first, as an organ of secretion; second, an organ of absorption; third, as a protection wall against disease processes; fourth, as an entrance door for infection (physiological wound).

When the tonsil has as its predominating function secretion and protection, then we have a normal tonsil necessary to the body economy, and under no circumstances should this tonsil be removed; but when these functions are in abeyance and its function of absorption and its action as an entrance door for infections come to the fore, then we have a diseased tonsil, a true menace to bodily health, and this tonsil should be completely removed.

It will now be my endeavor to acquaint you with tonsils of this latter class, because they constitute the pathological tonsil, the one demanding surgical intervention. For a number of years the special literature has teemed with the tonsil question—when shall we remove tonsils and when not remove them—to such an extent that a résumé would be both hopeless and useless. Each man must study the individual tonsil in the relation to the effect upon the human body. He must ask himself the question, are these tonsils promoting, by their physiological functions, the welfare of the human economy, or are these tonsils pathologically deleterious to this economy. This conclusion can only be arrived at by a thorough local examination of the tonsil and by a complete survey of the general symptoms.

The tonsils attain their greatest normal enlargement in the second or third year, while at puberty they are smallest. The tonsil is considered normal when it protrudes but little out of the fossa tonsillaris. Makenzie has suggested

that a tonsil is pathologically enlarged when it extends beyond the faucial pillars. At a glance this means nothing, because only when a tonsil, owing to the enlargement, disturbs respiration, digestion, and the voice does its size become pathological. We have all seen markedly enlarged tonsils causing absolutely no symptoms, not even a difficulty in speech.

Its true pathology lies in the crypts and within its structure, irrespective of its size, and is represented by an increase or atrophy of the connective tissue stroma, a hypertrophy or decrease in the cellular elements of the lymph nodes, a more or less round-cell infiltration, with crypts containing a rich and abundant bacterial flora and debris, toxins, pus, and even bacteria within the tonsil substance. Through this portal of entry of a diseased tonsil comes all the exanthemata, acute articular rheumatism, nephritis, endocarditis, acute and tubercular adenitis, septicemia, auto intoxication, and a host of other diseases.

I have in mind many typical cases illustrating these conditions. For example, children with marked cervical adenitis; glands that not many years ago would have been removed by surgeons as scrofulous, but after a simple tonsillectomy the neck glands subsided again to their normal condition.

You must remember that the cervical lymph glands act like all other glands. Those distal to the point of infection become acutely enlarged in their endeavor to protect the system against the focal infection, and if this source of infection is not removed they even go on to the point of suppuration.

Then, too, I recall cases of acute articular rheumatism having as complications acute endocarditis and nephritis following the onset of a tonsillitis. Any clinic abounds with the exanthemata and their sequelae following tonsillitis.

To show you how remote the effect of diseased tonsils may be upon the system: A lad with a marked auditory nerve deafness was brought to me for consultation. Examination, with a history of his deafness, suggested some systemic auto-intoxication, but no clue of the cause was found until an examination of his mouth revealed a chronic follicular tonsillitis with a marked hypertrophy of the tonsils. The tonsils were removed and within three weeks the lad's hearing became normal. In another case of autointoxication with persistent chronic sore throat, examination revealed a small flat tonsil, its surface dotted with a fungoid exudate penetrating into the tonsillar substance. After removal this tonsil at its greatest thickness did not measure more than one-fourth of an inch, and the capsule, due to the persistent chronic inflammation, thickened from a tissue-like membrane to a

wall one-fourth of an inch thick and as hard as cartilage. Then, too, we have all seen the recurrent quinsy sore throat, or peritonsillar abscess associated with tonsillitis. In many of these cases even after what was thought to be a complete removal of the tonsils the peritonsillar abscess continued to recur as before, even when inspection revealed apparently a perfectly clean tonsillar fossa. Minute inspection never failed to reveal in these cases a remnant of diseased tonsil tissue still remaining, usually tucked high up out of view in the plica tonsillaris, acting as a gateway for infection.

As a further illustration of the necessity of a complete removal of diseased tonsils, I would state that within the past few weeks I have seen two cases of severe follicular tonsillitis accompanied by high temperature and marked systemic symptoms in patients who, after severe attacks of tonsillitis, had what they supposed to be a complete tonsil removal. Inspection in the one case revealed small diseased tonsil masses, pea sized, remaining still on the floor of the tonsillar fossa, while the other showed at the base of the tongue the inflamed lower pole of the tonsil remaining as the result of a faulty tonsillectomy technic. A case of unusual interest was that of a woman who for years had labored under the delusion that she had no tonsils. Specialists at various times had told her that her tonsils had completely atrophied. She complained of a sore throat confined to the tonsillar region and local examination revealed an inflamed area corresponding to the faucial pillars. In seeking the source of this inflammation the mucosa was minutely inspected with the result that mucous membrane flaps from both pillars were in apposition, and when these free edges were separated, a small, flat, inflamed tonsil was brought into view.

It is unnecessary for me to mention other local manifestations of diseased tonsils. We all know too well the relation they bear to eustachian tube and middle ear infections, but before I close I want to mention the case of one patient who lies at death's door with no hope of recovery, as a result of a streptococcic viridans general septicemia originating in a mild tonsillitis contracted while visiting a severe grip case.

Again will be raised the cry of the tonsil question, but is there a question? We hear that a child with tonsils indiscriminately removed develops a possible susceptibility to pharyngitis and bronchopneumonia; that the tonsil in some way is necessary to the body economy, and, as the latest word, tonsil removal interferes with that necessary functional association existing between the tonsil and the ductless glands, the pituitary, suprarenals, generative glands, etc., causing functional and sexual disorders; but all

authorities are agreed that a diseased tonsil is a menace to human life, and if it continues to remain in this diseased state must be removed. Therefore, gentlemen, our duty is clearly defined. A diseased tonsil must be removed. An acute inflammation of the tonsil should be given the proper treatment and sufficient time to reach the normal, because we have all seen an acute attack of tonsillitis followed by a complete and persistent cure; but, when the tonsil is diseased beyond repair, or by the persistent inflammation is affecting the general health, complete enucleation is imperative.

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AMETROPIA IN SCHOOL CHILDREN*

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Ametropia literally means an eye out of measure, or it may be defined as one which in a state of rest does not focus parallel rays of light upon the fovea (Thorington). We have two kinds, axial and curvature. Under the former we have hyperopia and myopia. The latter, or curvature ametropia, is synonymous with astigmatism. Another and more practical classification is (1) hyperopia, (2) compound hyperopic astigmatism, (3) myopia, (4) compound myopic astigmatism, (5) simple hyperopic astigmatism, (6) simple myopic astigmatism, (7) mixed astigmatism, (8) anisometropia and (9) antimetropia.

The record of my private cases of the past four years shows the following percentages: Class 1, or hyperopia, 39 per cent.; Class 2, or compound hyperopic astigmatism, 35 per cent.; Class 3, or myopia, 3 per cent.; Class 4, or compound myopic astigmatism, 5 per cent.; Class 5, or simple hyperopic astigmatism, 7 per cent.; Class 6, or simple myopic astigmatism, 3 per cent.; Class 7, or mixed astigmatism, 3 per cent.; Class 8, or anisometropia, is ignored in this table; Class 9, or antimetropia, 1 per cent. Included in this number are four cases classed as emmetropia. (Those percentages have not been carried out into fractions; the preference being given to the greater numeral.)

Hyperopia, Far-Sightedness, Short-Eye, Nature's Eye.—The eye of the average child at birth and during its early years of life is hyperopic, and tends, under normal conditions, to approach emmetropia, or the eye of normal vision, sometime between the ages of eight years and adult life. I give this wide range

of age because authorities differ. In my opinion it is about the age of puberty. My reason for claiming this age is the great number of hyperopic eyes we find in young school children who have no symptoms of asthenopia.

Now let us take up the different varieties of hyperopia, its symptoms and treatment. According to Thorington we have six kinds of hyperopia. (1) Facultative, or that kind which is taken care of by the accommodative apparatus, without giving any symptoms of eye strain; the child sees equally well, either with or without his plus correction. This, in the opinion of the oculist, may be corrected or not. Theoretically it is not necessary to correct it if it is small; but I would favor its correction if more than one diopter. (2) Absolute hyperopia is generally a condition of old age and is simply another name for facultative at the other extreme of life. (3) Relative hyperopia is a variety mentioned which I shall not attempt to discuss, as I do not consider it of importance. (4) Manifest hyperopia is represented by the trial case refraction without a cycloplegic, and is estimated by the strongest convex lense with which the child can maintain clear distant vision; it is the total of facultative and absolute hyperopia. (5) Latent hyperopia is the amount of hyperopia which is left after the manifest and facultative are corrected, or it is the difference between the static, or that found under full cycloplegia, and the postcycloplegic test. (6) Total hyperopia, as its name implies, is the full amount of hyperopia as represented by the strongest plus glass which the eye will accept when under a cycloplegic.

The symptoms of hyperopia and its compounds, that is, compound hyperopic astigmatism and simple hyperopic astigmatism, are of two varieties, those which are manifested in the eye, and the reflex. The former consist of possibly a poor distant vision, if the error is of high degree, with or without astigmatism, resembling myopia, and classed as pseudomyopia; for on account of his poor vision, the child will hold his book close to the eyes, and he is said to be near-sighted for this reason. We have had many cases come to our clinic at the Post-Graduate wearing minus lenses of two or three diopters. A test with a retinoscope under atropin would show a hypermetropia of six or seven diopters, with one or two diopters of astigmatism. We also may have conjunctivitis, blepharitis marginalis, styes, feeling of sand in the eyes, inability to do close work for any length of time on account of blurring and letters running together, with the result that the child is behind in his studies, through no fault of his. He chooses outdoor sport, plays truant, hates school and everyone connected with it.

* Read before the Eye, Ear, Nose and Throat Section of the Jackson County Medical Society, May 20, 1915.

If his hyperopia is not of such high degree he will usually have good distant vision, as he will be able to accommodate sufficiently to maintain this, but with all the evil effects of eye strain.

One not uncommon symptom of this group is internal squint. This nearly always means hyperopia or hyperopia with astigmatism. The fixing eye does all the work, while the deviating eye is amblyopic from lack of use. These cases should be seen early, for the fusion sense begins to develop during the first year, and is fully developed at the age of six years. It is very difficult to teach the child to maintain binocular fixation satisfactorily later. Operations at ten and twelve years of age are then mostly done for the cosmetic effect. Proper glasses with the use of the stereoscope and amblyoscope at an early age of two and a half or three years will bring about binocular single vision. The instillation of atropin into the good eye at short intervals will sometimes be of great assistance. This will force the child to make use of the amblyopic eye. In short, no effort should be spared to have such a case corrected before the school age is reached.

The reflex symptoms are headache, bad temper, indigestion, enuresis, fits, chorea, and, as someone has said, "the limits of the body alone limit the reflex symptoms." In emmetropia the accommodation is used only for near work. For distant vision the eyes should be in a state of rest, but the eyes of only a few children are emmetropic. My records show 81 per cent. of all cases, regardless of age, to be afflicted with hyperopia in some form. You will notice that this does not include records of presbyopia.

The treatment of hyperopia and hyperopic astigmatism is first accomplished by placing the eye in as nearly an emmetropic condition as practical with the proper lenses. We will suppose that the child has been caught in the dragnet of school inspection and that he has been in school a year or two. This would represent the typical or average case, as the ametropia did not bother him before and possibly never would have, had he not been forced to do close work. People will say, "What a pity to put glasses on such a young child," and oculists are often accused of trying to increase their business by doing so, but the conscientious man knows that he is doing the child an immense amount of good in this case. Greater pity to deny the child glasses and see him fail in his studies and be pointed out as stupid, much to his chagrin, and often more so to his parents'. His present symptoms may be brought about by a spell of measles, scarlet fever, or excessive school work with poor illumination and confinement. Sometimes taking the child out of school for a short time will relieve the conditions. Sometimes

glasses worn for one school term will suffice. If the conditions follow closely upon a spell of sickness, such as above mentioned, or especially diphtheria, it is better to take the child out of school for a short time and build him up with tonics, and then, if all symptoms disappear, glasses need not be prescribed. There is some difference of opinion among good authorities about prescribing glasses in such cases. Some good men say the correction of manifest hyperopia in schoolchildren can never be harmful, but Hiram Woods of Baltimore says that much damage may be done in such a case if fitted by any other than an oculist and cites a case of paresis of the internal rectus fitted and made miserable by the optician and his lenses. This much may be said—such a case will tax the skill of the successful oculist and patience of parents and teacher, and is not a case for the refracting optician. In my work at the Post-Graduate Clinic from one-third to one-half of the cases that were brought to us for refraction were wearing department store lenses. "There may be proper functions for the examining optician, and in our present economic state there doubtless are, but dealing with eye-strain in school children is not one of them" (Hiram Woods).

In looking over my case reports I was reminded that I have read that eleven to fourteen years is the dangerous age, and the majority of my cases are between these ages. This is the period when the average hyperopic eye should become emmetropic, but the explanation is, I think, that so many hyperopic eyes are complicated with astigmatism.

I shall not go into the technic used in refraction in my own work, as this paper is not intended for the student who has not mastered the essentials. Speaking in a general way, I will say that I use the same, or about the same in principle, as that used in the clinic of Drs. Bellows and Lichtenberg at the Post-Graduate. Atropin is used in young children, one to two grains to the ounce, and scopolamin, one-half grain to one to the ounce in older children. After full cycloplegia shall have been established the retinoscopy is made, and trial-case test is recorded, and later, five to seven days in scopolamin, and twelve to fifteen days in atropin cases, postcycloplegic test is made, and then prescription is given for postcycloplegic findings. This is done if the child is old enough to assist us with test letters; if not, prescription is given according to retinoscopic findings. This latter method may be used in cases of hyperopia with convergent squint where one wishes to correct nearly all of the error. I consider the post-cycloplegic test the *sine qua non* to successful refraction in children.

Much has been written recently on the conservation of vision in schoolchildren by such men as Allport, Dean, Lancaster, Hiram Woods and Noyes. I think the school authorities and teachers are doing their duty in trying to help us in such work. I don't know whether the teachers are making the visual tests now or not since school medical inspection has been discontinued in our city, but I am sure they are competent and willing to do so.

Every child should have a practical test made of his vision by some competent person after the first year of school work, preferably by the teacher or family physician, and if vision is found below normal in either eye he should be referred to an oculist. Those in whom vision is normal, but who have hyperopia or hyperopia with astigmatism, will receive notice in the way of symptoms of eye strain in time, it is hoped, to conserve good vision. It would be of great benefit to some children to have their eyes refracted early in school life; it might save them from making a poor choice in the way of selecting their life work. A child with a high degree of hyperopia or hyperopia with astigmatism would be greatly handicapped should he choose a profession as his life work. The amount of close work required for study would more than likely give him serious trouble sooner or later. A child with such an error as mentioned should choose some work that would not require such a large amount of near work. Some persons may wonder at the number of young persons, and especially children, who wear correcting lenses, but considering our long annual school term and the number of years the average child spends in school, I wonder that any of us escape symptoms of asthenopia—and very few, if any, of us do. Parents of children with poor vision, and in fact all parents, should be instructed by printed cards in the principles of good lighting. The wearing of correcting lenses will not relieve asthenopic symptoms if the child is continually forced to do close work by poor light. The schoolchild should have a proper place in the home for study with a good comfortable seat and table and good light coming from the left and rear.

"The Relation of Sight and Hearing to Early School Life," by Guy L. Noyes, in the *University of Missouri Bulletin*, Volume 15, Number 3, Medical Series 5, under date of Jan. 16, 1914, suggests that the following questions be answered. Of course very few of the questions are actually put to the pupil. The teacher should be able to record answers to practically all of the questions by observing the pupils in his charge. After making out the medical inspection card, these questions are made use of, and a card of warning sent to the parents, if the case is considered abnormal.

Does the pupil have:

- Styes?
- Red lid edges?
- Red eyeballs?
- Discharge from eyes?
- Excessive tearing?
- Branlike accumulations in the eye lashes?
- Crossed eyes?

Does the pupil:

- Hold his reading matter close to his eyes, i. e., closer than fourteen inches?
- Have any difficulty in seeing clearly across a large room (20 feet)?
- Hold his head in an unnatural position while reading?
- Dread the bright light of day?

Does the pupil complain of:

- Headache or browache?
- Feeling of sand, burning or itching in eyes?
- Drowsiness?
- Blurring of print?
- Tired eyes after little reading?
- Any other symptoms of eye strain?

Glasses:

- Does the pupil wear glasses?
- Are the glasses level before the eyes?
- Does each eye look through the center of the lens that is held before it?
- Are the glasses so placed on the nose that the pupil cannot see over them in looking at a distance?
- What is the vision with glasses? Without glasses?
- Does the pupil readily and accurately recognize and differentiate pure colors such as red and green?

I once had a very interesting case of ocular symptoms of eye-strain caused by poor light, in which refraction was practically emmetropic. A young man, school teacher; was teaching eight miles in the country. The roads were impassable so he could not get to town for oil for illuminating purposes. He was preparing for railway mail examination, so was compelled to do his studying by light from the fire-place. A severe case of conjunctivitis followed, which cleared up when such practice was discontinued.

Hyperopia in childhood does not change much in amount either with or without proper treatment, but simply changes its form. Facultative becomes manifest, and manifest becomes latent, and these all become the absolute hyperopia of old age. A child with much hyperopia present in any form early becomes presbyopic.

As regards effects upon the eye itself, hyperopia with astigmatism, or simple hyperopic astigmatism must be considered in an entirely different light. Astigmatism in the child is a much more serious condition and should not be permitted to go uncorrected. Anything above one-fourth diopter hyperopic astigmatism should be considered abnormal and should be corrected, for as you know, the saying that "astigmatism is the turn stile for myopia" has become a classic.

The astigmatic child has very pronounced symptoms of eye-strain and is in a very serious condition if he is not early given proper relief. What has been said before of the symptoms of hyperopia, may be said of astigmatism.

There are no positive symptoms of astigmatism, as it is generally combined with hyperopia or myopia. This much is sure—the presence of astigmatism increases the symptoms in a very large degree, and as regards prognosis for continued good vision, such should be given guardedly. The direct, or ocular symptoms are much the same as those of hyperopia, but the indirect, or reflex, are much more intense. As regards headaches in astigmatism, Casey Woods says: "Astigmatism is probably the most frequent cause of headaches from eye-strain; the diagnosis of the latter may rest upon establishing the presence of the former."

It is not possible to bring vision up to normal in cases of astigmatism if the error is of high degree, and we have to be satisfied with the best vision we can get and good ocular hygiene. The lenses may require frequent changing, for, as we have said before, the tendency of this condition is to progress into myopia. The owner of the astigmatic eye will very often have a way of carrying the head to one side which may cause a scoliosis. This peculiar position of head is very often caused by an imbalance of extrinsic ocular muscles, but this paper is not to deal with muscular asthenopia, but accommodative, or that due to refractive errors.

Myopia, or near-sightedness, short eye, is that variety of ametropia which is least understood and correspondingly least benefited or complications thereof prevented. There is no generally accepted etiologic theory. I shall mention only a few such theories. The one accepted by most oculists is the large amount of close work forced upon us from early childhood, especially on eyes afflicted with myopia combined with astigmatism. The extrinsic ocular muscles, especially the external recti, in the act of convergence, press upon the tunics and cause an anterior-posterior elongation of the axis. Three hundred years ago Kepler, the great astronomer, said that young people who studied well were inclined to be near-sighted. The fact that myopia increases steadily up to adult life—during the school period—is good argument that it is caused by excessive near work.

Another theory advanced by some good men, such as Roemer, is that of sclera malacia or softening of the sclera due to faulty metabolism. Donder's theory is that it is due to the inclined position of the head in near work, causing a venous congestion and correspondingly increase of tension. Another is that it is due

to a congenital shortening of the optic nerve, thereby causing a tugging at the posterior pole during all ocular movements. Others have tried to account for it in different shapes of the head and orbits; the wide face with wide pupillary distance being more prone to myopia than a long face with narrow pupillary distance. Pfleuger says that heredity is a great factor in its production and quotes figures to justify his ground. Some French writers have decided that consanguinity plays an important rôle, especially in cases of malignant myopia.

The symptoms are mostly subjective unless complicated with astigmatism. In early school life it is noticed that the child does not take interest in anything that occurs out of arm's length; that he cannot read numbers on the houses nor recognize persons across the street. He does not care for plays such as hide and seek. He wants to look at pictures and play indoors. His vision is good for near work. Now this is the beginning of the vicious circle. He naturally reads and studies more, becomes first in his class, receives praise from parents and teacher and naturally applies himself harder and gives up altogether outdoor play. While myopia is benign in its beginning, it soon may become malignant without giving the child any pain whatsoever. While in the hyperope we had all the symptoms of accommodative asthenopia, the myope cannot accommodate for distance, so usually has none of these symptoms. His eyes will not focus parallel rays of light, not by any act of accommodation he can exert. So if he is unfortunate in advice at school and at home, and has been, possibly improperly, fitted with glasses, one of his early warnings may be a possible loss of his near vision, too.

Another not uncommon direct symptom of myopia is divergent squint, owing to wide pupillary diameter, weakness of internal rectus muscle and lack of accommodative power. What has been said of early care of internal squint would apply here. Many of these cases, like those of internal squint, are brought to a very desirable end by correction of the existing ametropia.

Ophthalmoscopic examination at this time will show the myopic crescent with hemorrhagic patches in retina, floating bodies, hazy vitreous, choroiditis, posterior staphyloma or conus and a case that will go on to total loss of vision. This extreme condition may be prevented or arrested if the child is taken in hand early by proper parties and given proper correction for his refractive error and limited in amount and hours of close work.

The tendency among the best oculists is to fit myopic eyes with the weakest distant lens which will give good or the best distant vision,

and he may be advised to wear this for distant vision temporarily and after he becomes accustomed to them he will wear them for near work also.

Two per cent. of children will be myopic in the first year of school life, and 17 to 20 per cent. during their high-school and college years. These figures may be subject to certain variations, but the fact is that myopia becomes more prevalent among the older children doing school work, and tends to become higher in degree and malignant in character in the individual cases. While some authorities may classify myopia into three classes, progressive, non-progressive and malignant, we should always look upon the myopic eye as a diseased eye, remembering that, combined with astigmatism, bad positions at study, and improper glasses, or none at all, are the factors in the causation of the malignant form.

A word in regard to choice of frames and lenses for the child and their fittings to his case. No child need have his personal appearance made any the worse nowadays by wearing glasses if they are well chosen and properly fitted. Personally, I take all measurements and do all my own fitting and consider that I get better results than if I trusted the work entirely to others. One should be careful to a millimeter in pupillary diameter; also, as regards horizontal meridian. Have lenses set close to lashes, especially the concave for myopes. Use comfortable cables or at least rubber tips for ears, and have saddle broad. The child will wear his glasses if you will do your part well.

It has been in recent years only that the effect of eye-strain upon character has been appreciably understood. The child who is suffering from asthenopic symptoms, from compound hyperopic astigmatism, and who is compelled to do near work is not liable to be possessed with the most amiable of temperaments and this is indelibly stamped upon the face and disposition and on the character to a certain extent. Many a child is simply a victim of his eye sight. The hyperopic child cannot do close work without discomfort, so he is rated a poor student. The near-sighted child has such poor distant vision that he prefers to study all the time; so the former would naturally, if not controlled, choose some manual or outdoor work as his life vocation, and the latter would prefer some occupation calling for near work. With the proper correction of refractive errors at an early age the child would not necessarily be limited to such choice.

I remember one boy, a pupil of mine in my pedagogue days, who was usually bright in everything but schoolwork, but at ten years of age knew nothing of books; had not mastered the alphabet and I was unable to teach it to him

during one whole term. I tried him along with more advanced pupils in the hope that he would learn by the word method. I wonder if this boy did not really suffer with some form of eye-strain, and that proper glasses would have put him right.

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PENETRATING WOUNDS OF THE ABDOMEN *

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This is a subject of interest to the general practitioner as well as to the surgeon, because the general practitioner first sees the patient, renders first aid and the further treatment is usually governed by his advice. Because of the variation in the treatment the subject must be divided into two classes: first, wounds of military life, and second, wounds of civil life. Twenty years ago there was no difference in the treatment, but experience in the Spanish-American and Philippine wars has changed the treatment in military life. In the Army and Navy at the present time the pendulum has swung from operative to nonoperative treatment. This was because of the fatal results of operation. However, this difference must be granted between military wounds and civil wounds. Wounds of military life are usually made at long distance by long, pointed, narrow bullets propelled with great velocity. They make clean wounds and generally pass through the body. The intestines are either pushed aside or the perforations are small and without leakage. An immediate operation is not possible, and the wounded men are often transported across country. It is impossible to operate even then under strictly aseptic conditions.

However, this paper is to deal with wounds of civil life and here the conditions are different. The wounds are usually made by dull instruments, such as pointed objects, pistols, shotguns, or other instruments producing extensive laceration of the tissues and viscera. In this day of modern hospitals it is possible to operate under aseptic conditions and within a few hours after the injury.

Every wound penetrating the abdomen is a dangerous wound and demands instant treatment. The important thing is, if possible, to ascertain the extent of the injury. The most manifest sign of a penetrating lesion is the location of a pistol or stab wound on the front or side of the abdomen and this justifies an exploration. While there may be positive signs of penetration and of perforation of the viscera,

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such is not usually the case. There may be vomiting of blood, which would suggest an injury to the stomach or duodenum; or bloody stools, indicating lesions of the intestinal tract; or blood in the urine or the escape of fecal matter, bile or urine from the external wound or the protrusion of the omentum or intestine. These signs, however, are usually absent and the diagnosis of penetration must be made from other conditions. Shock may or may not be present, but it is of no special diagnostic significance. In many cases it is not present and when present it is no criterion of the injuries sustained. If the shock is persistent it usually indicates a hemorrhage. The presence of concealed hemorrhage may be suspected from the pallor, weak pulse, clammy skin, and the areas of shifting dullness in the flanks. A pistol or stab wound located over the abdomen is sufficient justification for an exploration of the wound and of the peritoneal cavity. Symptoms are misleading and one should not wait to see if dangerous symptoms develop, but should ascertain by sight and touch the true condition of the internal organs. Patients in whom there is a reasonable suspicion of penetration of the abdominal cavity should be subjected to laparotomy without delay.

The prognosis is always grave and depends on several factors, mainly the time of operation after the injury, the size and nature of the penetrating body, and the organs injured. The general mortality of penetrating wounds of the abdomen is at least 50 per cent., and taking the results the country over probably higher than 50 per cent. Stab wounds are less serious than gunshot wounds, as the lesions are more localized and clean cut and are likely to be less extensive, but the hemorrhage is usually greater. Wounds of the stomach and large intestine are usually less dangerous than those of the small intestine. The prognosis will also be affected by the age, general health and physical condition of the patient.

In a gunshot or stab of the abdomen no probing of the wound should be done. It should not be interfered with in any manner except to apply an aseptic dressing over the injury. The patient should then be transported to a hospital without delay and be placed in the care of a competent surgeon. If a hospital is not accessible he should be taken to the place at which he is to remain and the most competent physician available summoned. The patient's abdomen should now be thoroughly cleansed and painted with iodine and the track of the bullet should be incised and followed if there is any doubt that it has penetrated the peritoneal cavity. Sometimes it may be best to open the abdomen through the bullet wound, but generally the best incision is in or near the midline, as it permits

a more thorough exploration of the viscera. If the patient is in shock he should be given an intravenous infusion of salt solution. Bleeding should be controlled with clamps and ligatures. Wounds of the liver, kidneys and spleen bleed freely and may be controlled by suture and packing, or in the case of the kidneys and spleen by removal of the organ. After attending to the bleeding the viscera should be carefully explored for perforations, and if found they should be closed with the usual forms of intestinal sutures. If the peritoneal cavity is extensively soiled with the intestinal contents it should be flushed with hot salt solution and ample drainage provided both at the seat of the injury and in the pelvis. The patient should be placed in Fowler's position and if the perforations are not situated too low down salt solution should be given per rectum at once.

This in brief is an outline of the treatment of penetrating wounds of the abdomen, and in closing I would like again to impress the gravity of such wounds and urge that the treatment be a laparotomy, and the substitution of methods of precision for those of doubt and uncertainty.

A report of three cases which I have operated on in the last nine months may be interesting.

CASE 1.—Man, aged 26, entered Cook County Hospital, Chicago, Aug. 2, 1914, with a history of having been shot with a shotgun one hour previously in a nearby saloon. The gun was loaded with buckshot. Examination revealed a well-developed young man with numerous small wounds in the abdominal wall. He was in no particular shock. He was suffering some pain, but except slightly increased pulse, he showed no alarming symptoms whatever. I operated on the patient one hour after his admittance to the hospital. A thorough search revealed forty-eight small perforations of the small and the large intestine. They were closed with silk and because of the great number by merely taking an over and over stitch. The patient recovered from the shock of the operation, but about the fourth day afterward began to show signs of a beginning peritonitis and died the sixteenth day following operation from a low-grade peritonitis.

CASE 2.—Italian, aged 32, entered Cook County Hospital, Chicago, Aug. 12, 1914, with a history of having been stabbed in the abdomen three hours previously. Examination revealed a stab wound one inch in length just below the umbilicus. A small piece of the omentum was protruding from the wound. The abdomen was rigid, and the patient was in great pain; pulse rapid and all symptoms of shock present. I operated two hours after his entrance to hospital and found, besides quite an extensive injury to the omentum, four perforations in the small bowel. These were closed with silk and the abdomen was irrigated with normal saline and abundant drainage supplied. The patient made an uneventful recovery and left the hospital the fifteenth day after the operation.

CASE 3.—Boy, aged 20 years, entered Springfield Hospital Dec. 26, 1914, with history of having been stabbed in the upper abdomen one hour previously. Patient was bleeding freely and had been since the injury. He was in profound shock and great pain.

An immediate laparotomy was performed and we found the knife blade had entered the pleural cavity, severing the tenth costal cartilage, the lower branch of the internal mammary artery, and had entered the peritoneal cavity incising the anterior wall of the stomach for the distance of about one inch. The incision was closed, a drainage tube inserted and the patient was given very energetic after treatment. After a very stormy convalescence for the first five days, the patient rallied and left the hospital the twenty-first day after the operation and at the present time is as hale and hearty as before the injury.

Holland Building.

**ETIOLOGIC FACTORS IN THE VOMITING
OF PREGNANCY AND MEASURES
TO RELIEVE IT***

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BLAND, MO.

For the past few years I have made some investigation regarding some of the etiological factors that are either direct causes, or which at least enter into the exciting causes that produce morning sickness in pregnant women. Whilst these investigations have not established beyond a reasonable doubt the cause of this condition, yet it has firmly established, in my mind at least, several things which have been obscure heretofore.

In the cases examined by me I have invariably found that the generative organs are, to say the least, in a very unsanitary condition. When I speak of these I mean of course, the vulva, the vagina and the os uteri. As a rule constipation of the lower bowel is also a factor. I found upon inquiry from a patient that she paid very little attention to her personal toilet. Most of these patients are young women who have had very little experience in married life. I find that in attending to their personal toilet they wipe from behind forward; thus subjecting the vagina to the infection of the colon bacillus. This is, however, not all; these patients are young and therefore as a rule are enjoying the bliss and pleasures of married life, and that too without the precaution of taking a vaginal douche each morning. Under such unsanitary conditions of the generative organs, is it at all a wonder, that the generative organs become infected with numerous microorganisms? If this view be correct, then the proper measures could easily be enacted and the condition relieved. Too many of us heretofore have considered the abnormal condition of vomiting in pregnancy a diseased condition of the stomach and have tried to remedy the same by directing remedies to that organ. It is a fact that many of us have discharged this condition as a trivial one and not even examined the vagina and the

uterus by ocular inspection. If we had inspected them we would have gotten our eyes open much sooner. Too many of us have accepted the old theory that this condition was brought about by a reflex condition from the uterus on the digestive organs and have tried everything except the right thing. Some surgeons reported wonderful success by painting the os uteri with tincture iodine. No wonder this procedure very often produced a cessation of the disagreeable symptoms complained of. Iodine is an ideal antiseptic, killing the germs and producing an aseptic condition in the vagina. The cause of the disorder being removed the symptoms also soon disappeared.

When I was asked by some of my confrères to write a paper on the subject under consideration, I was asked to read up on the subject so I could refer to some of the literature that had already been written. This would in all probability have been edifying to me but might possibly have been a bore to those who have already read all the literature available. The theory that vomiting in pregnancy is due to an infection of the generative organs may or may not have occurred to many in their routine of practice. Many have told me that they have for years gotten better results from local treatment than from internal medication. I will not try to explain the method and the philosophy of how, by reflex irritation from an infected vagina and uterus, nausea and vomiting can be produced. Those who wish to follow the old method of bombarding the stomach with various nostrums may do so; they too will get right on the subject by and by.

It may be interesting to you to hear of my method of treatment. I have withheld all oral medication. As a rule I make a plain statement to my patient that I believe the fault is not with the stomach. Then I explain my theory of the condition and ask for an examination. On this examination I am generally prepared to announce to my patient that my suspicion has been confirmed. After this I prescribe a douche both morning and night of about one gallon of water with from twenty to sixty grains of permanganate of potassium dissolved therein. This is to be followed with a douche of plain warm water. In case of constipation, and here let me say that I find that most cases are complicated with constipation, the patient is also to take an enema each morning and night, and if this does not relieve the constipation, then the patient is to drink a cupful of hot water before each meal. If the patient is not relieved within a very short time I give a hypodermic injection of stock vaccines containing the colon bacillus, plus the streptococcus and staphylococcus albus and aureus. This method has been successful in my hands in all except one case. In this particular case I was called only three days

* Read at the Fifty-Eighth Annual Meeting of the Missouri State Medical Association, St. Joseph, Mo., May 10-12, 1915.

before the case terminated fatally. In this case I made an examination of the generative organs and found them in a very unsanitary condition and infected. The mouth too was very sore and showed signs of fungus infection. In this case the patient had been sick several months, but no examination of the vagina and uterus had been made for the simple reason that there was no suspicion of any infection in any part of the body. A doctor told me recently that he had come to the conclusion that the so-called idiopathic diseases had nearly gone out of fashion. When a doctor uses the phrase idiopathic he simply wants to say that he does not know the pathology and etiology of the condition he is treating. In this sense of the term idiopathic is analogous with groping our way in the dark.

To prove that most pathologic conditions of the generative organs are due to infection from the outside, I wish to relate the following case:

Mrs. R., aged 37, was taken with a pain in the left ovary. The pain was severe, and if the region of the trouble had been on the right side the condition would in all probability have been diagnosed as appendicitis. Within a few days pus was discharged from the uterus. I sent some of this pus to Dr. Charles L. Klenk of St. Louis who examined it microscopically and found the following bacteria: colon bacillus, streptococcus, staphylococcus, gonococcus, micrococcus diplococcus and diphtheroid bacillus. The colon bacillus was greatly predominating. Will any one question how these various bacteria got into the pelvic tissue. My theory is that they did not get in there by a process commonly called autointoxication. My belief would rather be that they were carried there through the natural channels. The colon bacillus was very probably carried there by direct infection as mentioned above.

It should always be borne in mind that simple infection soon becomes multiple infection, and that bacteria as a rule are believers in amalgamation and mix with each other. The streptococcus that causes rheumatism and sore throat may change its nature and may become the streptococcus that causes erysipelas. This was my experience in a recent case which was for some time a plain case of rheumatism, but was stubborn and did not yield to antirheumatic treatment nor to the streptococcus rheumatica, but when there presented redness of patches of skin resembling erysipelas, they very readily yielded to a few doses of erysipelas vaccine.

I beg pardon for deviating from the text, but what I wanted to illustrate is this: First, that infection plays a most important part in the diseases commonly prevalent here, and that measures to eliminate these infections and produce an immunity against them are the best methods of combating them. Vaccines are very important factors in overcoming various infections, especially autogenous vaccines, but where they cannot be obtained the next best thing is to use stock vaccines.

INJURY WITH EXTRAVASATION OF BLOOD IN THE PERICARDIUM *

W. N. YATES, M.D.
FAYETTEVILLE, ARK.

About 5 o'clock p. m., April 3, 1915, C. W., aged 46, a farmer, was driving a loaded wagon under the trestle just south of Fayetteville. The team became frightened at the switch engine which happened to pass over the trestle at this instant, broke to run and threw the driver out. As usually happens in such cases the neighbors became greatly frightened and phoned for all the doctors in the city. Dr. Wood reached the patient first, and, realizing the gravity of the man's injury, ordered him brought to the City Hospital. I arrived at the hospital about the same time the injured man got there, and after a cleansing bath, assisted by Dr. H. D. Wood, proceeded to examine the man's injuries. He had several cuts and bruises about his body, but the most serious injury was to the left chest-wall. There was fracture of the fourth and fifth ribs, left side, near the anterior axillary line, accompanied by a bulging of the chest-wall just outside the sternum, and a corresponding depression of the chest-wall in the axillary region. There was pronounced shock, facial pallor, rapid pulse, leaky skin, and intense pain in the left side of the chest, greatly intensified at every attempt at movement. With much difficulty we tilted the man to the right side and strapped the left side with strips of adhesive. After the dressings were applied the man was given a hypodermic of $\frac{1}{4}$ grain morphia, which had to be repeated once or twice during the night. The man slept but little during the first night, complaining greatly of pain and especially dyspnea.

April 4, 8 a. m., temperature 101.5 F., pulse 106, dyspnea and pain still pronounced. During the night there had developed with each cardiac impulse a well-pronounced splashing or succussion sound. It was synchronous with the systole, and loudest just above the apex beat. This sound was loud enough to be distinctly audible all over the room. All physicians who saw this interesting case interpreted this unusual sound to signify there had been a puncture of both lung tissue and the pericardial sac by the end of a broken rib, resulting in an effusion of both blood and air in the pericardium. The expediency of opening up the heart-sac in an endeavor to turn out blood clots, etc., was discussed by a number of surgeons who saw the case, but the gravity of an operative procedure looking to this end, coupled with the possibility that nature would take care of the effusion, caused us to postpone operative interference. The patient's condition was grave for some ten days or two weeks, his temperature ranging from 100 to 103 F., pulse 110 to 125 or 130, much suffering, much dyspnea, and marked sweating. The abnormal sound persisted for some ten days or two weeks. The dyspnea and other untoward symptoms slowly subsided and at the end of three weeks his pulse and temperature had gotten back to about normal and the patient was able to be up and about the ward.

The interesting feature about this case was, first, the wounding of the lung and pericardial sac with a resulting effusion of blood and air into the sac; second, the slow and eventual absorption of the effusion and ultimate recovery of the man.

* Read at the Fourteenth Annual Meeting Frisco System Medical Association, Springfield, Mo., May 24-25, 1915.

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OF THE

Missouri State Medical Association

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JANUARY, 1916

EDITORIALS

GOLDEN JUBILEE OF DR. CARSON

After completing fifty years of continuous service on the medical staff of the St. Louis Mullanphy Hospital Dr. Norman Bruce Carson, the dean of the surgical profession of St. Louis, was tendered a surprise dinner and presented with a gold loving cup at the hospital on November 24 by members of the staff. The celebration was attended, besides the medical staff, by the sisters of the hospital, the graduate and apprentice nurses and a few friends. Dr. Elsworth Smith, Jr., presented the cup in the name of the staff and Dr. M. A. Bliss presided at the dinner during which speeches were made by the Reverend M. S. Ryan, Chancellor Hall of Washington University, Drs. F. G. Nifong, Joseph Grindon and F. J. Lutz.

Besides the loving cup, a gold casket was presented by the sisters, an oriental rug by the graduate nurses, a gold traveling bag and a gold clock from Kendrick Seminary Community and a gold lamp from the apprentice nurses.

Thus condensed in a few lines is limned the triumph of a life devoted to the good of man and the uplift of the profession. One of the best known and best beloved of the leaders in his profession, Dr. Carson's quiet and reserved nature would have permitted this epoch to pass without notice or comment. We are glad for the sake of his numerous students and admirers that we can present this short though incomplete account of the occasion that marked the rounding out of a career which will always stand as an inspiration for others.

THE ST. LOUIS CITY SANITARIUM

The recent recommendation of the grand jury at St. Louis that the corps of attendants at the sanitarium (hospital for the insane) be increased serves to recall that many previous recommendations of the same nature have been made by other grand juries in the past and were not heeded. For years it has been a lamentable fact that the number of attendants caring for the insane charges in the St. Louis City Sanitarium has been wholly inadequate, and the

fact has been often discussed and from time to time published in grand jury reports, asylum superintendents' reports, mayor's messages, and in the daily press. It would seem that a want so constantly and forcibly urged would have been speedily filled, especially one of this character where the agreement as to its urgency was so unanimous. For twenty years or more we have heard the statement made at frequent intervals that the number of attendants on the insane was insufficient. Meanwhile we have watched the number of insane patients in the city's care grow threefold and fourfold in size. It would appear that the time has arrived when the matter of providing more attendants for the insane at the sanitarium cannot longer be postponed. All the superintendents of that institution for the past thirty years have raised the cry of more help needed, yet the report of each succeeding grand jury shows that such help has not been forthcoming.

Primarily, the cause of the inability to procure enough help of this kind is to be found in the low wages paid to institution workers. From the date of the opening of the institution in 1869 when less than 200 inmates were under care, the attendants at the sanitarium have received precisely the same salaries that they now receive. Though the cost of living generally has advanced, though in every walk and circumstance of life expenses have multiplied, though the mercantile agencies of St. Louis announce that living is 55 per cent. costlier than before the World's Fair, though the city has grown tremendously in area and population—still this hard-worked class of city employees who give their whole time and attention to the care of the insane, receives the same pittance that they did thirty or forty years ago, a meager stipend of \$28 or \$30 per month with board. Various superintendents have sought to secure the passage of an ordinance authorizing an increase of pay and an increase in the number of attendants, but every measure looking to these ends has been without avail. Arguments of superintendents, reports of health and hospital commissioners and grand juries have been disregarded. The time is now at hand when both the increase in wages and in the number of attendants must be allowed; otherwise the positions of attendants will have to go begging for lack of competent material with which to fill them.

Until such time as the city may be willing to remunerate the attendant properly for his services there will continue to be a dearth of that kind of help. The occasion of complaint hitherto has been that the number of attendants employed was insufficient; the difficulty would have been obviated no doubt had the salary been raised to a sum commensurate with the service required. Everybody knows that the duties of

attendants are most exacting; few realize, however, how complex and manifold their work and responsibilities really are. They are required to give their entire and undivided attention for fourteen hours or longer every day to the most helpless insane and invalids, patients physically or mentally (sometimes both) incapable of helping themselves; to perform for them every office; to amuse them; to entertain them; to feed them; to dress them; to minister to their wants; to nurse them; to look after their comfort; to keep them out of harm's way; and at the same time, in a greater or lesser degree to extend to them sympathy and encouragement; to associate with them on terms of true companionship and real solicitude for their welfare; in short, to create about and around them a comfortable homelike atmosphere and to dwell with them, their comrade, counselor and guide. These are no ordinary tasks; on the contrary, they are tasks which call for men and women of tact, judgment, experience and a certain degree of education and innate refinement. Only such as these should be employed as attendants and the number employed should be ample to insure the performance of their arduous duties without the worry incident to haste and drudgery. The pay should be comparable to that of other qualified and self-respecting toilers engaged in similar pursuits—the guard, the watchman, the porter, the traveling companion, the houseman, and others, whose duties and responsibilities are not as heavy.

SOCIAL MEETING OF THE CLAY AND JACKSON COUNTY MEDICAL SOCIETIES

On December 11 the members of the Jackson County Medical Society were the guests of the Clay County Medical Society at a dinner and dance given at the Elms Hotel at Excelsior Springs. The occasion proved a most enjoyable and inspiring event. The members from Jackson County, accompanied by their wives and "prospective wives," arrived in a special train of interurban cars. There were 164 guests at the table in the spacious dining room of the hotel.

Dr. T. N. Bogart, president of the Clay County Medical Society, presided. Several technical papers had been scheduled for the evening but by general consent only one paper was read, that of Dr. J. T. Rice of Excelsior Springs, in which was related the effort of the reputable profession to rid this popular watering place of quacks and charlatans and secure the most efficient services for the patients who are sent there. The paper was read by Dr. J. J. Gaines, secretary of the Clay County Medical

Society, because Dr. Rice pleaded inability on account of a sore throat which, Dr. Gaines facetiously observed, did not interfere with Dr. Rice's deglutitious function. After the reading of this paper, which was received with considerable enthusiasm, the spirit of fraternalism and fellowship was further evidenced in an appreciative talk by Dr. Bogart and those upon whom he called to address the audience. These were Dr. C. R. Woodson, president of the State Association; Dr. J. M. Frankenburger, retiring president of the Jackson County Medical Society; Drs. Franklin E. Murphy and J. F. Binnie of Kansas City, and Dr. E. J. Goodwin, secretary of the State Association.

At the conclusion of the speaking dancing was enjoyed until midnight.

HOSPITAL FOR TUBERCULOUS PERSONS

About two and a half years ago a few women in Jasper County got together and called a mass meeting. At this meeting Dr. Walter McNab Miller of Columbia, Mo., spoke on the subject of tuberculosis and the state organization to fight it. In spite of the fact that there was a poor attendance at this meeting a local anti-tuberculosis society was formed, a visiting nurse was employed and she started out to hunt up these cases. In the first three months she located over 100 cases in the late stages of the disease, and since that time she has constantly had on her list from 150 to 160 cases. Most of these cases are in and around Webb City and Cartersville mining districts. In this territory intensive mining is carried on to a larger extent than in any other portion of southwest Missouri and the disease occurs mostly among the miners and their families. The knowledge gained from the investigation of this visiting nurse showed that a serious condition existed in Jasper County. When the matter was brought to the attention of the United States Public Health Service the surgeon-general promptly sent a specialist on tuberculosis and a mining engineer to investigate the cause for the extensive prevalence of this form of tuberculosis in Southwest Missouri. For more than a year these investigators worked in the mining district, did much original work and gathered a large amount of valuable information concerning the conditions under which miners lived and worked.

The Antituberculosis Society soon saw that the tuberculous miner would have to be isolated if any permanent or definite results were to be obtained, for in a number of cases it was easy to follow his path by the occurrence of new cases in his immediate family and among his associates and relatives.

At the last session of the legislature a bill was presented which was something new in the fight on this disease. The bill asked that any county be given authority to vote bonds for \$100,000 for the erection of a tuberculosis hospital, and further asked that the state pay \$5 per week for the care and treatment of each case brought to this hospital. The bill provided for the appointment of a commission of five persons, two women and three men, to have entire charge of the installation and operation of the hospital. The bonds were voted September 14 and the commission was appointed by the county court of Jasper County and they are now serving. Under this law any county in the state can vote bonds for erecting a hospital for tuberculous persons, and the state will pay \$5 a week for each patient maintained in the hospital.

The commissioners in Jasper County are: Mr. A. H. Waite, president of Joplin National Bank, Joplin, five years; Dr. L. C. Chenoweth, Webb City, four years; Mrs. Charles C. Cummings, Joplin, three years; Judge Howard Gray, Carthage, two years; Miss Eugenia H. Hackett, Cartersville, one year.

For many years the term "miner's consumption" has been heard in Jasper County and apparently used as representing a disease distinct from pulmonary tuberculosis. In a few cases possibly such a condition does exist, and is closely allied to stonecutter's disease, with this exception, that the stonecutter is usually working in limestone or marble whereas the miner in this district, especially in the sheet ground where this disease prevails, is working in a silicious or flinty material, very hard and very brittle, that breaks into particles that are sharp as glass. The condition is very similar to that investigated by Colonel Gorgas in the gold mines in the Rand, South Africa, and reported in *The Journal of the American Medical Association* a few years ago. Dr. A. L. Lanza of the U. S. Public Health Service has charge of the work in Jasper County for the government and has gone into the matter very thoroughly. Several hundred radiographs of the lungs of infected persons have been taken and the effect on the lungs and heart in the miner actually at work has been carefully and repeatedly measured, and the dust content of the air breathed by the miner has been carefully collected, measured and photographed. In fact, the most careful and scientific methods have been used in the investigation of this problem by the government so that when the investigation is completed we shall have a full knowledge of this condition as it exists here today.

The mine operators have cooperated very earnestly and much work has been done in the way of spraying to prevent dust formation, and in the improvement of the general conditions of the miner at work.

THE HONOR ROLL

We are gratified with the reception accorded the Honor Roll for county societies begun last year. The secretaries of the county societies worked industriously to obtain a place on this roll and in December thirty-seven counties had succeeded. In addition to the thirty-seven that were published in the December issue three other societies were entitled to a place but could not appear in the printed list because of the late return of their dues. These are the Clinton County Medical Society, the Vernon County Medical Society and the Cape Girardeau County Medical Society, which makes a total of forty counties without any delinquents for 1915.

The position for first place on the Honor Roll for 1916 was made a matter of quite a little competition and was won by Webster County. Benton County, Cape Girardeau County, Schuyler County and Atchison County followed in quick succession.

We are sure the Honor Roll will contain almost all the county societies before the end of this year.

PERRY COUNTY ORGANIZED

The organization meeting of the Perry County Medical Society was held at Perryville, November 23. There were present Dr. G. M. Rutledge of Ste. Genevieve, councilor of the District; Dr. E. J. Goodwin of St. Louis, secretary of the State Medical Association, and the following physicians in Perry County: Wade H. Abernathy, George A. Blaylock, William H. Barks, John P. Clark, T. F. Estel, Kirby C. Garner, Harry Knapp, David F. Morton, Edward M. Popp, James W. Russell and F. M. Vessells, all of whom applied for membership and paid the annual dues for 1916.

Dr. Rutledge made a splendid talk on the benefits of county society organization and affiliation with the State and National Associations, and urged the members to hold regular meetings and use their influence to become influential in every movement touching the health of the community.

Dr. Goodwin explained the workings of the organization and the benefits that the members enjoy by affiliation with the society and the obligations which they assume in accepting such membership.

Dr. George A. Blaylock was elected president; Dr. James W. Russell, vice president, and Dr. F. M. Vessells, secretary. Dr. D. F. Morton was elected censor for three years, Dr. William H. Barks for two years, Dr. T. F. Estel for one year. The election of a delegate was postponed until next year.

A constitution and by-laws in harmony with the State Association was adopted and application for charter was made.

The physicians in Perry County are capable of maintaining a very active and influential society and we feel sure that the interests of the physicians and of the people will be subserved by the affiliation. This leaves only twelve counties not organized.

DEATH OF DR. THRAILKILL

Dr. E. H. Thrailkill of Kansas City, one of the best-known physicians of that city and widely known throughout the state as a specialist in proctology, died suddenly at his home Dec. 7, 1915. A bottle that had contained chloroform was found near his bedside and chloroform had been spilled on his pillow. It is supposed he fell asleep with the uncorked bottle in his hand and the contents spilled out and caused his death. He had been suffering for some months with an undefined trouble, supposed to be an affection of the liver or kidneys, but he was constantly at work. He had been out with a case practically all night and appeared in good spirits when he returned home about 7 o'clock in the morning. He left word not to be disturbed except for something very urgent and was not seen alive again.

Dr. Thrailkill began practice in Kansas City about twenty-five years ago and was associated with Dr. J. D. Griffith for ten years. He was very active in county society work and held many offices in the Jackson County Medical Society and on numerous committees of the State Association. He was a Fellow of the American Medical Association and a member of the staff of the General Hospital at Kansas City. His death is a distinct loss to the medical profession of this state and to the many friends he made during his professional career, all of whom held him in the highest state.

MEDICAL ALUMNI OF UNIVERSITY OF MISSOURI ADVOCATE A BIG TEACHING HOSPITAL

The Medical Alumni of the University of Missouri held a banquet in the Athens Hotel, Columbia, on Thanksgiving evening. A medical alumni association was formed with Dr. C. F. Briegleb of St. Clair as president and Dr. C. M. Sneed of Columbia as secretary.

After a good feast several excellent speeches were given. Dr. Karl Baker of Carthage, spoke for southwest Missouri. Other speakers were Dr. John E. Rayl of Crocker, Dr. S. V. Bedford of Jefferson City, Dr. C. F. Briegleb of St. Clair and others. At the conclusion of the festivities a rare treat was afforded the "Old Grads" in a speech on the future of medicine in Missouri

by our well-beloved Dr. A. W. McAlester of Columbia. He prefaced his brief talk by a toast to the Medical School offered in water, symbolic of science, health and purity. He emphasized the fact that modern agriculture, animal husbandry, dairying, engineering, manufacturing and the great strides in preventive medicine have been made possible only by the scientific medical discoveries of chemistry, biology, physiology and bacteriology.

A resolution was adopted advocating the establishment of a great teaching hospital at Columbia. The following resolution was also unanimously adopted:

WHEREAS, The University of Missouri has discontinued the complete education of medical men furnishing now only two years of the usual medical course, and

WHEREAS, The relative importance of this department to the state is of as great value as any other professional school, and

WHEREAS, The state should furnish trained scientists to protect the public health, and

WHEREAS, The economic value of medical science to the state is demonstrably greater than that of any other profession, therefore be it

Resolved, That the Alumni of the Medical Department of the University of Missouri do hereby demand that our state, through the University, furnish and provide complete and thorough medical training as follows:

First, provision for a complete undergraduate course leading to the degree of Doctor of Medicine.

Second, for postgraduate work to better qualify the profession of the state in this rapidly advancing science.

Third, the establishment of research laboratories for the discovery of new scientific truth in medicine which are of such incalculable value not only to the health of all the people but also to the science of agriculture, animal husbandry and the other economic interests.

Fourth, the elaboration of the present bureau of preventive medicine and an extension service to the whole people of the state through all the known educational methods, such as popular lectures, bulletins, demonstrations, etc.

We view with regret the apparent apathy and indifference shown by our alma mater to the welfare of the commonwealth in failing to furnish satisfactory education for medical men as demanded by statutory law and the constitution of the state.

We feel shame and humiliation that a great state of three and one-half millions of people with two billion dollars of assessed wealth fails to provide adequate medical education but must depend on other states and on sectarian institutions for such training.

SOUTHEAST MISSOURI MEDICAL ASSOCIATION

In the December issue we published the proceedings of the Southeast Missouri Medical Association but through an error in the make-up these proceedings were printed as a part of the proceedings of the Southwest Missouri Medical Association. For that reason we are republishing the Southeast Missouri Medical Association proceedings.

OBITUARY

GEORGE W. TARLTON, M.D.

Dr George W. Tarlton, a graduate of St. Louis Medical College, 1881, died in Cape Girardeau, Dec. 13, 1915, aged 66, of interstitial nephritis and mitral regurgitation. For many years he was an active member of the Cape Girardeau County Medical Society and the Missouri State Medical Association.

NEWS NOTES

DR. H. E. PEARSE of Kansas City addressed the teachers meeting at Kirksville on December 3 on the welfare of the school child.

DR. FRANCIS REDER of St. Louis addressed the North Central Illinois Medical Association at Peoria December 7 on "Vascular Tumors."

DR. CHARLES WYCHIE of St. Louis was the guest of the Montgomery County Medical Society December 4 and gave the members an instructive and interesting address, with lantern slide demonstrations, on diseases of the ear, nose and throat.

DR. JOHN STURGIS of Perrin was stricken with paralysis about December 8 and is in a serious condition. He is 73 years old and has been a member of Clinton County Medical Society and the State Association for many years.

DR. NORVELLE WALLACE SHARPE of St. Louis addressed the Surgical Association of the Rock Island System at its meeting in Oklahoma City, December 1, on "Fractures and Various Traumatic Conditions of Bones and Joints," differential diagnosis exemplified by numerous lantern slides.

DR. HOWARD HILL and DR. GEORGE H. HOXIE of Kansas City were guests of the Caldwell County Medical Society at their annual meeting held in Polo, December 2. Dr. Hill addressed the members on "Surgery of the Gall-bladder," during which he demonstrated a number of pathologic specimens. Dr. Hoxie delivered an address on "The Differential Diagnosis of Abdominal Diseases."

W. B. SAUNDERS COMPANY, publishers of Philadelphia and London, have just issued their 1916 eighty-four page illustrated catalogue. It is a descriptive catalogue in the truest sense, telling just what you will find in their books and

showing by specimen cuts the type of illustrations used. It is really an index to some 300 titles, including forty-five new books and new editions not in former issues. A postal sent to W. B. Saunders Company, Philadelphia, will bring you a copy.

DR. M. A. BLISS of St. Louis and DR. LEGRAND ATWOOD of Ferguson have been elected original founders of the National Historical Society. This society was incorporated in 1915 "for the purpose of promoting historical knowledge and study, patriotism and the peace of righteousness among nations." An organization of this kind has a large field of usefulness and should be supported by everyone desiring to contribute his share to the perpetuation of the ideals of patriotism and the preservation of historical landmarks.

THE eye, ear, nose and throat section of the Jackson County Medical Society will give a smoker Jan. 23, 1916, at the University Club, Kansas City, at 6. p. m.

Program

1. "Paracosis, Deafness and Treatment," Dr. W. M. Reed.
2. "Tumors of the Trachea," Dr. Hal Foster.
3. "Conjunctivitis and Keratitis from Poison Ivy," Dr. J. W. Sherer.
4. "Ocular Injuries by Anilin Pencils," Dr. R. J. Curdy.
5. "Ophthalmology in the Orient," Dr. F. B. Tiffany.

All eye, ear, nose and throat physicians are invited.

J. H. THOMPSON, M. D., PRESIDENT.
E. L. RUSSELL, M. D., SECRETARY.

DURING November the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Non-official Remedies:

Antiseptic Supply Co.: Iodoapplicators. Iodoapplicators, special. Iodosticks.

The Bayer Company, Inc.: Iodothyrene Tablets, 3 grs. Theocin-Sodium-Acetate Tablets, 1½ grs. Thyresol Pearls, 5 grs.

Merck and Co.: Agar Agar Powder, Merck. Agar Agar Shreds, Merck. Berberine Hydrochloride, Merck. Calcium Peroxide, Merck. Ethyl Salicylate, Merck. Fluorescein, Merck. Formic Acid, Merck. Mercury Cyanide, Merck. Mercury and Potassium Iodide, Merck. Mercury Succinimide, Merck. Morphine Meconate, Merck. Osmic Acid, Merck. Sodium Oleate, Merck. Sodium Peroxide, Merck. Thiosinamine, Merck. Urea, Merck. Zinc Peroxide, Merck.

H. K. Mulford Co.: Ampuls Emetine Hydrochloride 0.005 gm. Ampuls Emetine Hydrochloride 0.02 gm. Ampuls Emetine Hydrochloride 0.04 gm. Ampuls Mercury Succinimide 0.1 gm. Ampuls Pituitary Extract $\frac{1}{2}$ c.c. Ampuls Quinine Dihydrochloride 0.24 gm. Ampuls Quinine Dihydrochloride 0.5 gm. Ampuls Quinine and Urea Hydrochloride 1 per cent. Ampuls Sodium Cacodylate 0.1 gm. Ampuls Sodium Cacodylate 0.2 gm. Ampuls Sodium Cacodylate 0.5 gm. Ampuls Sodium Cacodylate 1 gm. Purified Tricresol, Mulford. Scarlatinal Strepto-Serobacterin (Therapeutic).

Powers-Weightman-Rosengarten Co.: Calcium Peroxide, P.W.R. Magnesium Peroxide, P.W.R. Sodium Perborate, P.W.R. Sodium Peroxide, P.W.R. Strontium Peroxide, P.W.R. Zinc Peroxide, P.W.R.

Swan-Myers Co.: Swan's Staphylococcus Bacterin (No. 37). Swan's Streptococcus Bacterin (No. 43). Swan's Typhoid Bacterin (No. 44) (Prophylactic).

MEMBERSHIP CHANGES, DECEMBER

NEW MEMBERS

Wade H. Abernathy, Menfro.
William H. Barks, Perryville.
William H. Carruthers, St. Louis.
J. A. Chenoweth, Joplin.
John P. Clark, Perryville.
Theo. F. Estel, Altenberg.
Kirby C. Garner, Crosstown.
Philip P. Green, St. Louis.
Ferdinand F. Haas, St. Louis.
Frederick S. Haberle, St. Louis.
Harry J. Knapp, Perryville.
Eugene F. McCarthy, St. Louis.
Ora F. McKittrick, St. Louis.
David F. Morton, Perryville.
Edward M. Popp, Altenberg.
Floyd B. Rickets, Mountain Grove.
James W. Russell, Longtown.
Charles F. Sherwin, St. Louis.
G. Wheeler Wilson, St. Louis.
Louis J. Wolfort, St. Louis.
John S. Young, St. Louis.

CHANGES OF ADDRESSES

Richard W. Baker, St. Louis to Los Angeles, Calif.
Moses B. Barber, Flat River to Fredericktown.
C. C. Coats, Pattonsburg to Winston.
Harry S. Conrad, 78 Jule St. to 42 Ballinger Bldg., St. Joseph.
Lyle M. Daley, St. Louis to Hamilton.
Clyde O. Donaldson, 4052 Broadway to 726 Lathrop Bldg., Kansas City.

C. B. Elkins, 318 $\frac{1}{2}$ College Ave. to 10 Landers Bldg., Springfield.

Emory H. Gist, Fristoe to Marysville, Kan.

Eugene P. Hamilton, 5400 Independence Ave. to 4226 St. John Ave.

John C. Kassmeyer, St. Louis to Galena, Ill.

Leo J. Kilian, St. Louis to Blair, Neb.

A. W. McArthur, Kansas City to Delta, Colo.

John F. McLarney, St. Louis to Brookfield.

George W. Mathae, 1935 Park Ave. to 3167 S. Grand Ave., St. Louis.

E. E. Moody, Denver, Colo. to Joplin, Mo.

R. V. Thompson, Jamesport to Gallatin.

W. K. Whittington, 222 Sacramento St. to Hospital No. 2, St. Joseph.

J. W. Williams, Hinton Bldg. to Landers Bldg., Springfield.

RESIGNED

W. S. Harwood, Monroe City.

O. A. Phipps, Palmyra.

H. L. Reed, Beulah.

F. M. Roberts, Monroe, Iowa.

DECEASED

George W. Tarlton, Cape Girardeau.

Edward H. Thrailkill, Kansas City.

CORRESPONDENCE

INFORMATION WANTED

CLINTON, Mo., Dec. 14, 1915.

To the Editor:—Through THE JOURNAL I wish to ask a few questions of other society secretaries. 1. Having a good program prepared for the meeting, in what manner can you induce the individual member to be present? 2. When we have gotten a member to promise a paper on some subject of interest, how shall we get him to come and read it? He may fear that only himself and secretary will be there; how overcome that idea? 3. When you ask others to come and discuss the subject after giving them an opportunity to prepare their talk and not one appears to answer, what is to be done?

I have some ideas of the reasons why many stay away but I am not sure they are true, and I wish to hear what others may think and know about this trouble. I am sure of one thing, namely, that unless each member is willing to make his arrangements beforehand to attend the meetings, even if he has to make a little sacrifice, there will always be a small attendance. Some secretary may have a sure method of getting his members to the meetings and I am anxious to hear it.

The greater interest each one takes in the society work, social as well as educational, the more willing they are to pay their dues promptly without being urged.

F. M. DOUGLAS, M.D.
Secretary Henry County Medical Society.

this insect pest is known, and therefore this means is taken by me for the purpose of directing skilled scientific ability to the locality and subject indicated.

GEORGE HOMAN, M.D.

A MOSQUITO-FREE LAKE

ST. LOUIS, DEC. 8, 1915.

To the Editor:—My attention recently was called by Dr. John G. Robert of this city to what seems to be a settled local tradition of long standing concerning a body of water known as Henson's lake, lying in Mississippi County, which forms the southeasternmost part of this state.

The tradition, or belief, referred to is in effect that mosquitos are and have always been unknown in or near this particular body of water, although that part of the country is subject to annual overflow by river inundation; the lake, so far as known, having no dry-weather inlet or outlet receiving merely a backwater inflow during the flood season, and local rainfall otherwise.

The lake is said to be always well stocked with several varieties of choice game fish, and has long been a favored resort for fishermen for the double reason of the sport there found, and freedom from the annoyance of the mosquito pest, which is much in evidence in nearby parts of that county.

The lake in origin seems to be a detached bayou some miles distant from other waters, with muddy bottom and sloping shores well grown with vegetation, and freely open to the visits of domestic animals.

The asserted fact of mosquito exemption of this restricted locality was first brought to the notice of Dr. Robert during the yellow fever experience of 1879 while he was on duty as quarantine inspector of railway travel for the St. Louis health department at Belmont, Mo., on the Iron Mountain railroad; and, although he has not been engaged in medical practice for many years, this particular observation and experience made a strong impression on his mind, and his later connection with leading railway systems in this state enabled him to make inquiries in official directions which seem to fully sustain the correctness of the local tradition referred to.

It occurred to me that the matter is worthy of searching scientific inquiry by the health authorities of the locality in question, or by those of the state, in order that all the facts may be officially ascertained and made known; as, if there is any peculiarity of local terrain or vegetation to account for the asserted claim, this knowledge would have an important bearing on mosquito prophylaxis in every country where

A CORRECTION.

KANSAS CITY, Mo., DEC. 6, 1915.

To the Editor:—In my letter in the December issue a quotation from Dr. Arthur Dean Bevan's article, *Journal American Medical Association*, Oct. 23, 1915, was an error on my part. In glancing over the article I read the paragraph concerning chloroform and not nitrous oxid and hasten to make the correction.

Regardless of this one item the constant addition of statistics of nitrous oxid mortality is so rapid it makes one shudder. The matter is not a personal one—it is one of humanity.

Very truly,

GEORGE C. MOSHER.

MISCELLANY

SNAKES IN THE GRASS

The United States Department of Agriculture spreads the glad news that more than fifty legal actions have been successfully terminated under the Sherley amendment to the Food and Drugs Act, which prohibits false and fraudulent claims as to the effects of drugs or medicines. In twenty-five cases criminal prosecutions were brought against the manufacturers, in the rest the mislabeled medicines were seized in interstate commerce. We should like nothing better than to itemize all the preposterously false claims made for these fakes. One instance serves. Under the engaging name of "Family Physician," the Houchens Medicine Company of Baltimore have been supplying folks with a "remedy" for diphtheria, typhoid fever, scarlet fever, smallpox, bronchitis, neuralgia, croup, and all diseases of the throat and lungs. Here were some of the alluring claims:

"The Public is hereby assured that this is the Genuine and Original Family Physician. . . . For fever you need not give anything else but this Medicine; it will keep the rash out itself. . . . For cases of smallpox take plenty and often. Use freely. Give no hot teas; just give the medicine, and what pimples are under the skin will come out; the rest will be carried off by the medicine. . . . Also a wonderful and positive cure for dyspepsia; keeps measles out nicely, regulates the bowels without trouble, and, by purifying the blood, prevents your liability to disease."

Such phrases as "Keeps measles out nicely" show the lay of the land. Also, since when have sirups been good for dyspepsia? Here is what a real family physician called lately in our hearing "a ghastly fraud." "Family Physician" is—or was—a sirup containing anise, a vegetable cathartic, 19.2 per cent. non-volatile matter, and 8.9 per cent. alcohol. A fine cure for virulent and contagious diseases! Small wonder the Houchens Medicine Company pleaded guilty to the charge that the "Family Physician" was falsely labeled. Yet "Family Physician" is by no means the worst "patent medicine" fraud.—*Collier's*.

EXAMINATION FOR APPOINTMENT IN THE MEDICAL CORPS OF THE NAVY

The next examination for appointment in the Medical Corps of the Navy will be held on or about Feb. 23, 1916, at Washington, D. C., Boston, New York, Philadelphia, Norfolk, Va., Charleston, S. C., Great Lakes (Chicago), Mare Island, Calif., and Puget Sound, Wash.

Applicants must be citizens of the United States and must submit satisfactory evidence of preliminary education and medical education.

The first stage of the examination is for appointment as assistant surgeon in the Medical Reserve Corps, and embraces the following subjects: (a) anatomy, (b) physiology, (c) materia medica and therapeutics, (d) general medicine, (e) general surgery, (f) obstetrics.

The successful candidate then attends the course of instruction at the Naval Medical School, which will begin on or about Oct. 1, 1916. During this course he receives a salary of \$2,000 per annum, with allowances for quarters, heat and light, and at the end of the course, if he successfully passes an examination in the subjects taught in the school, he is commissioned an assistant surgeon in the Navy to fill a vacancy.

Full information with regard to the physical and professional examinations, with instructions how to submit formal application, may be obtained by addressing the Surgeon-General of the Navy, Navy Department, Washington, D. C.

A SAFETY-FIRST ORDINANCE

Legislation regulating lodging houses has become a necessity growing out of congestion in cities. The necessity has been recognized and met in New York, Chicago, Boston and other places where congestion had become a menace, not only to the lives of inmates of such houses, through overcrowding and lack of safety appliances, but to the health of the community, through the bad sanitary conditions always prevailing in such places when not controlled by law. When a city reaches that point of congestion at which scores of such places are to be found in a limited district, the danger to the public health makes the exercise of supervisory control a necessary part of the police power.

It is now half a dozen years since conditions in St. Louis became such as to demand investigation, and proposals for action. In 1909 the Society for the Relief and Prevention of Tuberculosis took action leading to the inspection of 150 lodging houses. On the basis of the facts disclosed, the study of the problem was continued by Dr. Mangold, director of the School of Social Economy, who prepared an exhaustive report in 1910. Dr. Mangold's report became in turn the basis of a document prepared by the Civic League three years later, in which conditions are set out in detail and with a comprehensive analysis of causes and their probable effects. In a small and closely built section of the city are scores of places in which hundreds of men are crowded nightly in dormitories unventilated, almost unlighted, dirty and wholly lacking in every form of sanitation.

We seem at last to be reaching the point of municipal action. The Public Welfare Committee of the Board of Aldermen has reported out favorably an ordinance providing for a form of inspection which will reduce existing evils to a minimum. The enforcement of the ordinance, when adopted, will be made by the health commissioner. The political pull of the lodging-house keepers is not so long and strong as it was under the old charter forms of city government, but, such as it is, it will continue to seek the defeat of the proposed action. There is a call to the friends of "safety first" to rally to the support of the measure.—*Globe-Democrat*, St. Louis.

ENDOWMENT OF \$500,000 TO AMERICAN COLLEGE OF SURGEONS

The American College of Surgeons begins the new year with an announcement that it has secured from its fellows an endowment fund of \$500,000. This fund is to be held in perpetuity, the income only to be used to advance the purposes of the college. By this means lasting progress toward the purposes of the college is assured.

The college, which is not a teaching institution but rather a society or a college in the original sense, now lists about 3,400 fellows in Canada and in the United States. Without precedent for swiftness of development it stands today a powerful factor both in the art and in the economics of surgery.

Primarily the college is concerned with the training of surgeons. But the significant fact in connection with the endowment just secured is that it has come from the surgeons themselves, inspired by a motive for better service to the patient. Ideals in the profession of medicine are living things. Probably no more convincing proof of this fact exists than the sacrifice which the surgeons of this continent have made willingly in order to raise this fund.

To begin with, these ideals are to find concrete expression along the following lines of activity:

1. Since the whole problem of the training of specialists for the practice of surgery is the primary purpose of the college, the regents propose at an early date to present a clear conception of the college to the undergraduate medical students of this continent. The regents will ask each senior student of this group who has in mind to specialize in general surgery or any branch of surgery to register with the college. As these students serve later as interns and as surgical assistants, they will be requested to report these facts to the college. The college, in turn, will systematically seek information as to the ability and character of such men; and the information thus obtained becomes the basis of admission to fellowship in the college. In addition to this procedure, the regents will insist on the proper keeping of case histories, and they will endeavor to stimulate in these men in training right ideals of medical practice. In this program they ask the active cooperation of the faculties of the medical schools and of all practitioners of medicine.

2. Inasmuch as proper training in surgery is inseparably involved with the conduct and efficiency of hospitals, the college will seek accurate data on all matters which relate to hospitals. From time to time it will publish studies on hospital problems, the purpose being always to be helpful to the hospitals. These publications will inform recent medical graduates as to where they may seek adequate general or special training in surgery. To be concrete the college will deal with such problems as (a) the proper equipment for medical diagnosis, that is, well-equipped laboratories for chemical, pathologic and Roentgen-ray work; (b) the proper form for case histories and the facilities for keeping these records; (c) the management and the curricula of the nurses' training school; (d) the specialization essential in any well-organized hospital.

3. The college will ask the faculties of medical schools to consider the advisability of conferring a supplementary degree of proficiency in general surgery and in the various specialties of surgery.

4. The college will issue readable monographs, educational in nature, to the press, to the general public, to hospital trustees and to the profession of medicine on subjects of medical procedure and the whole meaning of fitness to practice surgery.

The entire impetus of the college springs from within its own membership. Necessarily that impetus implies reform. But there is a vast difference

between reform preached at men and reform innate in the hearts of men which finds expression at their own initiative. Whatever impetus the college possesses it originates among the surgeons themselves. It is not an extraneous force or an "uplift" movement. But rather, out of the widely divergent views on many subjects among the fellows, the aims of the college rise as those time-tried aspirations which are inherently the basis of all that is valuable in the vocation of surgery. The purposes of the college are concerned directly with matters of character and of training, with the betterment of hospitals and of the teaching facilities of medical schools, with laws which relate to medical practice and privilege, and with an unselfish protection of the public from incompetent service; in a word, they embody those ideals which have stood the test of centuries. On these the fellows are united. These are the ideals which each fellow, single-handed, has endeavored to foster, and the expression of them today through the college comes as a sort of mass-consciousness of the whole body of fellows. The splendid fact is that the fellows have grasped in an instant the meaning of the college by a process of fusion and they have gladly made sacrifices for its success.

As one comes into wide acquaintance with the fellows of the college and catches some fair notion of their earnestness, he sees the future of the organization not by means of logic. There is something more subtle and potent than argument. A determined optimism carries a momentum of its own. Without a logical process it seeks concrete expression; and, more than this, it really recreates circumstances through all shifts of weather or play of incident with a certainty not excelled by an utterly rational course. The fellows of the college, in their widely scattered districts, fuse their consciousness of the organization with a splendid hope in their hearts to advance all that is important and valuable in the profession. This very attitude of mind is the first promise for the future of the college. It is a promise that admits of no defeat. It is a pledge of loyalty to medical patriotism which means loyalty to the public welfare exercised through intellectual sincerity and scientific accuracy. It means a safeguard to the public, for it indicates where honest and adequate surgery may be found.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL, 1916

(UNDER THIS HEAD WE LIST THE SOCIETIES WHICH HAVE PAID THE STATE ASSESSMENT FOR ALL THEIR MEMBERS)

- Webster County Medical Society, Dec. 15, 1915.
- Benton County Medical Society, Dec. 16, 1915.
- Cape Girardeau County Medical Society, Dec. 19, 1915.
- Schuyler County Medical Society, Dec. 22, 1915.
- Atchison County Medical Society, Dec. 27, 1915.

SOUTHEAST MISSOURI MEDICAL ASSOCIATION

The thirty-ninth semi-annual meeting of the Southeast Missouri Medical Association was held at Farmington, Oct. 19, 20, 21, 1915. The association was entertained at 6 o'clock dinner and smoker by the superintendent and staff of State Hospital No. 4, October 19. The program:

Clinic at Hospital No. 4, by Dr. Scrutchfield and staff. "Roentgen-Ray Treatment of Superficial Skin Lesions," by Dr. F. B. Ball, St. Louis. "Twilight

Sleep," by Dr. W. Kerwin, St. Louis. "Fifty Years Ago," by Dr. Wm. Nifong, Fredericktown. "Hygiene of Pregnancy," by Dr. P. Baldwin, Kennett. "Management of the Average Case of Obstetrics," by Dr. O. Haley, Fredericktown. "A Paper," by Dr. G. W. Vinyard, Jackson. "The Physician and the Doctor," by Dr. W. R. Goodykoontz, Clendon. "Malaria in Our Drainage Districts," by J. H. Timberman, Marston.

PROCEEDINGS OF THE WASHINGTON UNIVERSITY MEDICAL SOCIETY

Nineteenth Meeting, Feb. 8, 1915

1. A CASE OF POLYCYTHEMIA.—By DR. L. SALE.

Clinical report of a case of polycythemia under observation for four and one-half months. Patient is a female, aged 55, who consults the clinic only because of the color of her hands and face which renders her conspicuous. This condition has existed now for the last two years. Her family, past and personal history reveal nothing that can have any bearing on her present condition. Except for an occasional headache she feels very well. Dyspnea, hemorrhage, dizziness, vomiting and other symptoms met with in polycythemia are wanting. Her face is a mottled, dusky red, her lips slightly cyanotic, her hands a purplish red. All visible mucous membranes are bright red. Liver and spleen are enlarged. On both forearms are several small, nodular, circumscribed, subcutaneous tumors, rather soft and not tender. These are probably lipomata, although possibility of neurofibromata must be considered. The red cell count has varied between 8,000,000 and 9,500,000; hemoglobin around 140. Sahli (corr.), leukocytes, 8,000 to 11,000. There is a relative and absolute increase in the number of neutrophilic granulocytes. The red cells show no marked deviation from the normal in size, shape or staining reactions. There have been at no time any myelocytes or nucleated reds. Platelets are apparently increased. Attempts to influence the blood picture by the use of benzol and splenic extract have met with no success, although the patient insists that her color is not as high as it has been.

2. A VARIATION OF THE ARTERIAL CIRCLE OF WILLIS.—By DR. R. J. TERRY.

The case was presented as an example of the many defects of the circle of Willis encountered at necropsy and which are of practical interest in connection with the question of nourishment for the brain in the event of ligation of the carotid artery. It has been stated by Ehrmann that the ratio of serious cerebral accidents following ligation of a carotid agrees with that of the variation of the arterial circle, resulting in insufficient anastomosis (Poirier, p. 693, vol. iii). In the present instance there was a marked reduction in the caliber of the left posterior communicating artery in the arterial circle of the brain of an adult white woman.

3. A CASE OF STREPTOCOCCUS INFECTION.—By DR. G. D. ROYSTON.

My reason for reporting this case is that our department here has always taught that every case of fatal streptococcus infection in obstetrical practice is always carried to the patient from outside sources.

Mrs. T., aged 29, white, married, pregnant for the fourth time; regular normal menstrual periods, reappearing every twenty-eight days. Her first pregnancy, seven years ago, resulted in a spontaneous abortion at the end of the second month. Second pregnancy, six and one-half years ago, resulted in a

difficult instrumental delivery and complete laceration of the perineum, involving both sphincters. Since that time she has been unable to control the feces. The third pregnancy and labor three years ago was uneventful.

The history of the present condition begins the fourth pregnancy as follows:

Last menstruation, August 9 to 13; the history of the pregnancy was uneventful until November 26, when a slight amount of bleeding from the vagina began. This bleeding continued until her family physician sent her to the Barnes Hospital Dec. 30, 1914, where she first came under my observation. Vaginal examination showed a complete perineal laceration extending above the internal sphincter, bright red discharge from the vagina.

On account of the free hemorrhage from the uterus, without uterine contractions, a tentative diagnosis of placenta praevia was made. As fetal movements and heart sounds were present the child was undoubtedly alive, so an expectant plan of treatment was adopted. Urinalysis negative.

Patient was kept at absolute rest in bed and given light diet and morphin, depending on the presence or absence of contractions; all vaginal examinations strictly prohibited. At 8:45 p. m., Jan. 7, 1915, eight days after admission, uterine contractions began. At 12:05 a. m., January 8, patient complained of a chill; rapid rise in temperature to 104. At 10:45 a. m., January 8, vaginal examination showed cervix completely dilated and occupied, partly by fetal head and by the placental margin which extended over the right half of the dilated cervical canal, thus explaining the bleeding up to the time of delivery. In a few moments the living fetus (female of 22 weeks), placenta and ruptured membranes were spontaneously expelled.

Immediately after delivery the uterus was firmly contracted and the patient felt better. Entire duration of labor, fourteen hours.

In the afternoon of January 9 the patient complained of pain in the lower abdomen and of severe pain in the right elbow joint. A blood culture showed the presence of hemolytic streptococci. A culture taken from the uterine cavity showed the same organisms present.

The patient was given phenacetin; ice bags were applied to head and lower abdomen; aseptic ergot and digitalin.

Uterine and blood cultures taken at intervals of nine days showed constant presence of streptococci. The leukocyte count varied from 7,800 at the onset of the infection to 11,200, its highest point, eight days later, after which there was a steady gradual decrease in the number of white cells until it reached 6,200 the day before the patient's death.

Therefore, this case is that of a woman twenty-two weeks pregnant, with marginal placenta praevia and an old perineal laceration. She had been bleeding for thirty-four days before her admission to the hospital.

The fact that most investigators ordinarily find streptococci in the vagina of most pregnant women would seem to indicate that their virulence is so greatly impaired they are incapable of doing harm.

This woman had a complete perineal laceration whereby fecal matter was mixing in the lower part of the vagina with bloody discharge from the uterus. The more or less continuous hemorrhage the previous six weeks had lowered the patient's resistance so that she was particularly susceptible to infection. That the organisms were not of the very virulent type common to the usual puerperal septicemia is shown by the woman living twenty-two days in spite of their continued presence in the blood stream.

1. Was the infection carried to the patient before her admission to the hospital?

2. Was the infection carried to her after her admission to the hospital?

3. Is it a case of auto-infection?

4. RADIUM, MESOTHORIUM, AND PENETRATING ROENTGEN RAYS IN THE TREATMENT OF GYNECOLOGIC CONDITIONS (ILLUSTRATED BY LANTERN SLIDES AND DEMONSTRATION OF APPARATUS).—By DR. HENRY SCHWARZ.

The curative effect of the gamma rays of radium and mesothorium and the penetrating Roentgen rays in certain gynecologic conditions, chief among which are climacteric uterine hemorrhage, uterine fibroids and uterine cancer, is proved beyond peradventure by reports from leading gynecological clinics of Europe.

Until very recently it was not possible to generate Roentgen rays of sufficient hardness to penetrate to deeper tissues.

Hard Roentgen rays are not a substitute for the gamma rays of radium and mesothorium; they are absolutely identical with them.

To appreciate the fact of the identity of these various rays we should adopt the electron-theory of the composition of matter; according to this theory, matter is composed of electricity and of nothing else; this theory suggests the fundamental unity of force and matter. An atom consists of a nucleus of positive electricity around which some 800 minute particles of negative electricity, all exactly alike, are circulating like the planets around the sun. Atoms of different kind of matter are supposed to be constructed in the same general manner and all are built up from the same primordial building stones, the electrons. The number of electrons, however, varies in atoms of different kind of matter and is proportional to the atomic weight of the respective element.

When the crowding becomes excessive, as in the very heavy atoms of uranium, thorium and radium, having atomic weights well over 200, the atoms become radio-active, probably due to numerous collisions between the electrons, some of which are being constantly shot away.

In the breaking up of these atoms of radio-active substances one should be able to catch these negative and positive particles and one should likewise be able to demonstrate the force which holds them together. Wilson's experiments have demonstrated the identity of gamma rays and Roentgen rays and have likewise demonstrated the material character of alpha and beta rays and the nonmaterial character of gamma rays and Roentgen rays.

The alpha rays consist of relatively large particles of positive electricity, while the beta rays consist of the infinitesimally small negative electrons.

In the Roentgen-ray tube the atoms of hydrogen or other gases become radio-active when the pressure is reduced to the one-millionth part of an atmosphere and when electrification is added to rarification.

The beta rays of radium and mesothorium travel with very much greater velocity than do the cathode rays of the Roentgen-ray tube, hence the greater penetrating power of the gamma rays compared with that of the Roentgen rays.

Recently the Veifa Works at Frankfort a/M have produced a Roentgen-ray machine (reform apparatus) and a water-cooled tube (the maximum tube) which produce hard Roentgen rays in sufficient quantity and of sufficient penetrating power to successfully compete with radium in the treatment of cancer; still more recently an American product, the Coolidge

tube, constructed on a new principle, seems to furnish hard Roentgen rays of even higher penetrating power than those furnished by the latest German tubes.

Lantern slides and apparatus demonstrated the various machines and tubes; also the principle of applying these rays in gynecologic treatment; the safety devices for protection of patient and operator and the measuring devices for applying this powerful remedy in exact dosage.

THE SURGEONS' CLUB OF ST. LOUIS

Oct. 20, 1915

PRESENTATION OF SPECIMENS

Tumor of Cecum

DR. WALTER C. G. KIRCHNER: This tumor involved part of the cecum of a boy about 9 years of age, giving the following history:

Last April he was taken sick more or less suddenly with pain in the abdomen. The pain was in the nature of cramps and was more or less transitory; that is to say, on certain days it would be pronounced and on other days less so. He was treated for tuberculosis, enteritis and other conditions that would lead one to think of obstruction of the bowels. The pain at times was located near the appendiceal region and he was operated on for appendicitis. At the operation the surgeons noted some enlarged glands in the region of the appendix. The symptoms were but little relieved, and when he was about convalescent the pain returned and became so severe that another operation was considered; but the family refused operation at this time.

The boy in very weakened condition was operated under local anesthesia, the incision being made along the right rectus muscle and the peritoneal cavity examined. The gallbladder was in good condition, the transverse colon was low; in the right flank there was a mass as large as the boy's fist. Delivering this mass from the abdominal cavity it looked very much like an intussusception. But while it was more or less freely movable the mass was so firmly matted together that the intestine could not be unravelled. It was decided to do a resection and the cecum and a portion of the ascending colon were removed. Anastomosis of the ileum was made to the transverse colon by lateral anastomosis. The boy almost died on the table, being in such weakened condition and not taking the anesthetic well, but rallied from the shock. I saw him a week or so ago. He had gained greatly in weight and his general condition was very much improved. Dr. Ives reported the specimen a round cell sarcoma.

DISCUSSION

DR. M. G. SEELIG: There is an interesting point from the pathologic side of this, and that is, if I am not mistaken, that most of these tumors in children—if this is essentially a gut-wall tumor—are lymphosarcoma of the intestine. I advisedly say "if I am not mistaken." I think that holds true, as a rule. Microscopically, the differentiation of the lymphosarcoma and small round cell sarcoma is extremely difficult. I do not know just how it could be made unless the small round cell was interspersed with a good deal of reticulum. There was no obstruction here to speak of, was there?

DR. KIRCHNER: There was at times, but it was spasmodic.

DR. SEELIG: It was not the type of obstruction you would expect from a tumor of that size right in the

lumen of the gut—it was not a characteristic symptom.

DR. KIRCHNER: No; it was intermittent.

DR. SEELIG: That rather emphasizes the other point that lymphosarcomatous tumors of the intestine do not as a rule tend to obstruction, while the tumors of the carcinoma type do tend to obstruct. In a child with the obstructive features, certainly not so significant that we would mention them as a cardinal symptom, it would lead me on clinical grounds to consider this as a lymphosarcoma rather than as a small round cell sarcoma.

DR. WILLIS YOUNG: I do not think it makes any difference whether it is a lympho or a round cell, because the location of the tumor, as we can make it out from the specimen, is in the cecum, and if it is in the cecum the entrance to the gut is above it and the pathologic makeup does not make any difference, the physical location would be responsible for the obstruction. This tumor is located in the cecum below or approximately below the entrance of the ileum into the cecum, so that will not obstruct anything. Is not that so, Dr. Kirchner?

DR. KIRCHNER: It is partly true. The tumor encroached on the opening of the ileocecal valve in such a way as to produce a partial obstruction. That obstructive condition was more evident in the specimen as it was found in Nature than as it is shown here in the pathologic specimen.

DR. YOUNG: About how far away by measurement was the anastomosis of the ileum to the transverse colon?

DR. KIRCHNER: The anastomosis was made in the transverse colon.

DR. YOUNG: About how far away from the closed end?

DR. KIRCHNER: I should say about 4 or 5 inches. There is a point of technic in regard to that. I was watching with a great deal of interest just what would happen to that blind pouch left in that particular case. I felt that it was much easier to make anastomosis of the transverse colon than in the remaining portion of the ascending colon, but everything seems to have held perfectly and there is no pain now. According to the family's report one of the chief objects of the operation was that the boy was in great distress on account of pain.

DR. NORMAN B. CARSON: A number of years ago we made a series of experiments on dogs in the lateral anastomosis of the blind end of the intestine. It does not always hold in the human subject. We found that the lower end of the anastomosed end filled up with hairs and nondescript things that find their way into a dog's intestinal tract and gave a great deal of trouble, resulting in some cases in persistent vomiting and finally the death of the dog with this blind end being filled up.

DR. SEELIG: How long was the blind pouch?

DR. CARSON: I believe it was about an inch or less. In discussing that subject with some gentlemen in the East, I found that they had had the same results in lateral anastomosis.

DR. KIRCHNER: My object in making the lateral anastomosis in this case was that perhaps I could do it a little more rapidly and that if there were no strain it could be taken up more easily than end-to-end anastomosis. The observation that Dr. Carson has made is a very pertinent one in cases of this sort and worthy of consideration.

DR. SEELIG: I would like to ask Dr. Carson if the lateral anastomoses were exclusively small to large bowel or small bowel to small bowel.

DR. CARSON: Small to small and large to large. There were a number of experiments made in the early days of abdominal surgery when we began to muddle with the intestines.

Tumor of Uterus

DR. PERCY H. SWAHLEN: This specimen was removed from a patient about the middle of last July. The woman gave the following history: She was 47 years of age, had five children, no miscarriages; the youngest child was 6 years of age, born when the mother was 41 years old, and her menstruation after that was regular; no anomaly until about a year before she was operated on. During the past year the menstruation had been very irregular. About June 1 she noticed quite a sanguinous discharge from the vagina; no pain, but it kept up for a week. Her physician observed her for five weeks and said the discharge, which was practically continuous, was composed wholly of bright red blood, no clots and no sign of membrane. Several physicians had seen her, and it was a question just what kind of tumor she had. When I saw her it was easy to tell that she had an abdominal tumor of about the size of a seven-months' pregnancy. The tumor was soft and had been growing rapidly the last few weeks, but her physician said that during five weeks he had seen no change. I thought the woman had probably a cystic fibroid with probably a growth extending downward into the mucosa of the intestines.

The abdomen was opened and a small tumor was found. No small parts of fetus could be palpated; she had at no time felt movements; the cervix was only partially softened and not at all characteristic of pregnancy; the vaginal wall was pink and did not appear like the typical bluish tint of pregnancy; and yet, if it had not been for the marked hemorrhage, I should have thought pregnancy more likely. As soon as the dark mass came into view, the diagnosis, of course, was very easy. Hysterectomy was decided on immediately, and the point came up, is a hysterectomy here indicated or a supravaginal? This woman was the wife of a farmer, did hard manual work, had a lax vagina and perineum not in the best condition; apparently no involvement of the broad ligaments from palpation; the cervix also was not involved. Hence it was decided to do a supravaginal hysterectomy and sew the broad ligaments into the stump as a support, despite the fact that Beauvais in his statistics says that something over 40 per cent. shows malignancy afterward. The woman made an uneventful recovery, and as far as I know is doing nicely at present.

The tumor is of interest because it shows the comparative regularity of the uterine wall and also the comparatively small amount of the uterus that is claimed by this growth, which practically filled up the entire cavity at the time of operation.

DISCUSSION

DR. ERNST JONAS: If I may speak freely, I do not see why the doctor if he had such serious doubts about pregnancy did not examine the uterus in time to find out. On the other hand, after he had made the laparotomy I do not see why he did not take out the cervix. The chance of malignancy in these cases is so great that I would feel in a case of that kind considerable doubt about leaving it. It is very hard to make a differential diagnosis in these cases as to whether it is absolutely benign or malignant, and I think as a rule it is advisable to remove the uterus in toto. In these fibroids we find frequently a malignant degeneration of the cervix, especially where there is irritation along the cervix, and the removal of the organ in toto is hardly more dangerous than a supravaginal amputation in a case of this kind, whereas total removal is far safer in regard to the operation at the time and also as to the chance of future malignancy.

DR. SWAHLEN: I expected that point to be brought up, but I think that often when we have seen a case just a short time before, we are prone to think along the line then suggested; and just about two weeks before I had seen a case where I think you would have pronounced the uterus that of a pregnant woman, but she denied absolutely any possibility, and when the abdomen was opened it looked very much like this, but an incision into the wall showed multiple small cysts. Now, this hemorrhage indicated to me something abnormal, and I could not make out any small parts of a fetus at all after the abdomen was opened, hence I suspected something else, and I thought that by making the incision into the abdomen I could tell best what it was and act accordingly. I left the cervix, because the patient was a hard-working woman and had very little support from the peritoneum. I also remembered at the time that Dr. Hertzler of Kansas City, in a paper a few years ago, made the statement that he was able to find in the literature only six cases where malignancy had appeared in the cervix after a supravaginal hysterectomy had been performed, and I thought the support gained in this case was much more valuable because the cervix seemed to be below the involvement.

DR. JONAS: Does the cervix act as a support to the vagina?

DR. SWAHLEN: To a certain extent, yes. I attached the broad ligaments into the cervix and covered them over with peritoneum.

DR. JONAS: You can attach them just the same to the vagina.

DR. SWAHLEN: To a certain extent, but I think the cervix gives a better support.

Carcinoma of Lower Lip—Kidney Cyst—An Appendix

DR. FRANCIS REDER: I thought perhaps your interest would be centered on this work, inasmuch as the simple V-shaped incision of the lip in malignant disease is a thing of the past. However, on looking up what Dr. Erickson of the University College had to say, I found that he stated that the V incision when performed early enough in the disease is practically a cure. He had something like sixty cases with no return. He also stated that from the other hospitals in London he found that none of the patients who had been operated on with a V incision had returned to their hospitals or to this University College Hospital. During my experience in the City Hospital in the last six years I can enumerate fourteen cases operated with V-shaped incision and excision of cancerous lesion and later on, dating from four months to about a year, secondary conditions had manifested themselves in the glandular region of the neck. This operation is of some magnitude and is usually performed with the aid of general anesthesia. The V-shaped incision as I have performed it is done either with local anesthesia or with nothing at all.

This case, a man of 54 years of age, had a lesion about the middle of the lower lip. It is not often that you find it just in the middle; it is usually lateral. Under those conditions I thought it advisable to clean out all that was in connection with the lymphatic system and this lesion of the lower lip, which meant removing both submaxillary glands, the fascia, fatty tissue, the so-called nodules that we have at the angle of the inferior maxilla. This cleaning out was performed before the lip was attacked. Incision made below the inferior maxilla, carried around about the hyoid bone, and flap dissected back, leaving enough of tissue so as not to jeopardize the vitality of the flap. The incision was then carried across the

platysma, mental tissue and fascia, and the whole mass was dissected out up to the angle of the ramus of the jaw and carried out close to the periosteum. After that the V-shaped incision of the lip was made. I usually make it with a big scissors, which consumes practically no time. In suturing, the soft tissues are first sutured. I have operated in the last eight years about nine cases and had no returns. I have cauterized with carbolic acid the submental duct in these cases. However, this was overlooked in this case. I was fortunate enough not to get any infection. The case is now a week old. But unless there are good sanitary precautions taken as far as the mouth is concerned, the duct of Wharton and the duct of Rivini should be cauterized lest infection result.

Kidney Cyst

In operating for a ptotic kidney yesterday—this woman was in perfect health and never complained except of this left ptotic kidney—I encountered this cyst on the kidney, the anterior fissure. The only fortunate thing about it is that I succeeded in making my division in a manner so as not to injure the cyst and cut it out in toto. I then sewed the kidney tissue together and though there was considerable hemorrhage at the time I succeeded in checking it.

An Appendix

The appendix is almost like cartilage. This man, about 28 years of age, had been sick for about four years, not enough to be in bed but not really well enough to be at work, had no pain, nothing but digestive disturbance, and the only way I came to diagnose appendicitis was through rectal palpation, something that I took up in an article some years ago. I operated and found this cartilaginous thing, quite red, quite inflamed, and took it out.

DISCUSSION

DR. NORMAN B. CARSON: I was very much interested in this removal of the epithelioma from the lower lip. My experience in these cases has extended now over half a century and I think I can speak with some authority. In the earlier days, it was thought not necessary to do anything more than remove the tumor or diseased part with a V-shaped incision. Sometimes the lip was more involved and required more extensive operation but when it got that far it was generally left alone. I have had a number of cases and have seen a number of cases operated on where a small V-shaped incision was made and the patients recovered and remained well for years. I followed quite a number of those cases from the earlier days and found no sign of return, but when we compared with those in which there was a return that number was much greater. We see now every little while cases where epitheliomas have been removed from the lip with a V incision and have returned. It has been said by a very prominent surgeon that these returns never recur on the chin. I would like to dispute that assertion, because I have had an opportunity within the last two or three years of demonstrating to the surgeon who made that assertion that it was a mistake. A good many of them do return on the chin, and why is it? It is because we have a submental gland in these cases of epithelioma of the lip almost invariably involved. It is not in all cases that it is malignant involvement, but nevertheless it is involved in some way.

We have given up now altogether the V-shaped incision. The operation that we do and do always in these cases is to make an incision around the border of the submaxillary bone and turn down our flap. We differ from Dr. Reder. As I understand it,

he does not take the platysma. We take the platysma with the skin flap; turning this down, we make an incision around the upper border of the hyoid bone and dissect our connective tissue with all the glands including the submaxillary and submental, beginning on the outer side and dissecting in and up until we get to the center. After this is accomplished, we then take out a square-shaped piece of the lower lip down to the border of our transverse incision and remove everything, including the tumor. Then by various incisions to lengthen the flaps to enable us to bring them together, we close up our cuts and put in a drain transversely across the jaw. In all these cases we have had a great deal of infiltration, a great deal more than I know how to account for and that I think should occur. It invariably comes and why it should come I do not know. We have been able to follow some of these cases for quite a length of time and there has been no recurrence, but unfortunately in others there has been recurrence, showing that our operation, as complete as we thought it, was not complete enough. Nevertheless, the success of this operation has been sufficient to justify us in continuing to do it and now unless the patient will consent to the complete and radical operation we tell him that he must find somebody who will take it out in some other way.

DR. L. G. BARTELS: The kidney cyst is rather interesting. It is unusual to have a retention cyst of that kind, purely a retention cyst apparently. If it were a congenital cystic kidney, there would undoubtedly have been cysts in the other portions of the kidney. Dr. Reder tells me there were no other cysts. I see in the edge of the specimen however that there are a few small cysts. It is just possible that there were a few smaller cysts in other places in the kidney that did not make an appearance at the surface.

DR. REDER: There was one additional cyst in the immediate vicinity which was about the size of a pea.

DR. ERNST JONAS: I agree with Dr. Carson that in order to get successful results in any cancer we should not make a small operation in the beginning. In carcinoma the most radical operation should be done. If we do not do that I think we shall have no result of consequence.

DR. FRANCIS REDER: I keenly appreciate the remarks of Dr. Carson and it only goes to show again that this is a time when you should not consider the individual but consider the disease. Sometimes very unpleasant things happen in the deformities that occur where if the operation were less severe the chances of deformity would be less; but these, however, are duties that we must face.

Dr. Seelig asked me a question and I am frank enough to admit that I did not remove this *en bloc* as far as the maxillary glands are concerned.

The edema that Dr. Carson speaks of I have encountered repeatedly and it has been very annoying. I have been fortunate however in not getting an infection. It is remarkable how this V-shaped incision will heal.

Now, much as I am influenced by the success that Dr. Carson has had in his work I think that I am going to be a little bit guided by the disagreeableness caused the individual, I am going to be guided by the case.

Radiographic Plates by Dr. A. E. Horwitz

1. Arthritis of hip—so-called Perthes' disease. Flattening and absorption of epiphysis. No local pain. No signs or symptoms pointing to tuberculosis except pain referred to knee and limp.

2. Tuberculosis of cervical spine, softening and fusion of fourth and fifth cervical vertebrae.

3. Congenital luetic arthritis, involving both ends of right humerus. Clinical symptoms noted at elbow only where a pathological fracture had taken place. This illustrates my contention that in congenital luetic arthritis noticed at birth, the lesions are found to be symmetrical, either at corresponding points in opposite limbs or at the opposite end of the bone in question.

4. Congenital luetic arthritis of elbow. Distal portion of joint involved.

5. Congenital luetic scoliosis. Total curve of dorsal spine to right. Foci at eighth, ninth and tenth dorsal vertebrae.

6. Acute rachitic scorbutus involving both hips. Distention of joint capsule.

7. Marked osteoarthritis of spine in young adult, age 32. Lipping and ankylosing of vertebrae in entire dorsal spine.

8. Double tubercular hip disease with pathological displacement of left.

9. Tubercular hip disease, involvement of femoral head and acetabulum. Fusion of head and acetabulum. Formation of dense rounded shell of bone within pelvis walling off the process from extending and breaking into pelvis. Disease is quiescent.

10. Loose semilunar cartilage within joint of two years' standing. History of acute onset with injury typical in character. Cartilage has become rounded and calcified.

11. Marked spur on os calcis of gonorrheal origin. Spur a prolongation of tubercle of os calcis.

12. Charcot joint. Right hip. Pathological fracture. Lesser trochanter resting in acetabulum.

13. Typhoid osteitis of femur. Irregular periosteal thickening. Abscess within cortex.

14. Tubercular elbow. Traumatic fracture through softened bone with resulting union.

15. Rudimentary undeveloped tarsal scaphoid in child 7 years of age.

16. Tubercular hip disease with typical clinical findings. Femoral head clear. Acetabulum alone involved.

17. Tubercular hip disease with softening of femoral head and neck and destruction of normal angle producing a coxa valga and lengthening of limb.

and pain on urination in the urethral cases. In our experience the latter symptom was more apt to cause the patient to consult a physician promptly and hence in this group there were more of the early cases. A bloody tinged discharge rather pointed to a more advanced case. In this respect cancer of the external genitals differs markedly from that in the cervix. In several cases the history of pruritus extended back for several years before any lump or ulcer was observed. It is of considerable interest that in three of the urethral cases the disease was distinctly engrafted on a base of chronic urethritis. One of these patients under my personal observation had a urethral caruncle for four years before the appearance of the carcinoma. In the vulvar cases I found in five instances that the cancerous ulcer extended from an area of whitish parchment-like skin. In all of these five patients there was a history of prolonged itching, and the subsequent changes were doubtless secondary to this symptom. Further microscopic study will possibly throw additional light on this condition as an etiologic factor.

The importance of a radical operation for the relief of cancer of the vulva or urethra cannot be too strongly emphasized. Comparatively early in the disease metastases occur in the inguinal and femoral lymphatics; particularly the glands at the femoral ring are apt to be involved. In every instance, therefore, a complete removal of the tributary lymphatics on both sides, with their connecting lymph channels and fat, should be the first step in the operation. In conjunction with them the mons veneris and both labia should be excised—and in cases of urethral involvement this structure as well.

The final results of operation for cancer at this site are not very encouraging. Seven of our cases are at the present time still free of recurrence. Two of these seven were, however, operated on within the last few months and cannot, therefore, be considered as cured. In a number of instances the removal of the tumor gave relief for from six to eighteen months. The operative mortality is small—only one of our patients died after operation and she was a woman aged 71 years, cachectic, with a far-advanced cancer involving urethra, vulva and vagina.

Recurrences appeared five times within a period of from two to fifteen months after operation. In the urethral cases the recurrences were most often local; in the vulvar cases the return was more apt to be in the lymphatic system.

For the last two years we have given prophylactic Roentgen-ray treatment after operative removal, at intervals, over a period of several months. Whether or not this measure will give us better permanent results remains to be seen.

In conclusion, let me emphasize the importance of early recognition of the lesion. Every case of pruritus or burning urination in women over 40, whether or not a bloody discharge be present, demands an examination; and if the symptoms persist in spite of treatment these examinations should be repeated from time to time to determine whether or not a cancer is beginning to form. Our experience justifies the assumption that wherever such chronic irritation persists in spite of local measures, we should seriously consider the question of operative removal of the irritated areas.

2. MEASUREMENTS OF GASTRIC ACIDITY.—

By DR. M. L. MENTEN

Measurements made by the gas chain method on the acidity of gastric juice from a gastric fistula patient with a complete cicatricial stenosis of the esophagus, give figures corresponding to the more accurate observations of recent investigators by titration methods, namely, for appetite juice or secretion caused

THE BARNARD FREE SKIN AND CANCER HOSPITAL CLINICAL AND LABORATORY REPORTS

1. CANCER OF THE EXTERNAL GENITALS IN WOMEN.—By DR. FRED J. TAUSSIG

In view of the comparative rarity of cancer of the external genitals in women the report of sixteen cases that have come under the observation of Drs. Gellhorn and myself at the Barnard Free Skin and Cancer Hospital in the course of the past nine years may be of some interest. Reports thus far in American literature have been limited to only a few cases at a time. The experience of these sixteen cases justifies a few general observations concerning the pathology and treatment of cancer at this site. In seven patients the disease had its origin in the vulva and in an equal number it began in the urethra. In the remaining two cases the point of origin was uncertain, owing to the extent of involvement.

Cancer of the external genitals is distinctly a disease of old age, eleven out of sixteen women being over fifty years and only one being less than thirty-five years of age. Its onset is usually not very rapid, the first symptom being pruritus in the vulvar cases,

by a stimulation of the gustatory apparatus, an acidity varying between 0.35 per cent. and 0.5 per cent., while the acidity of the continuous gastric secretion lies between 0.2 per cent. and 0.35 per cent. These figures are approximately double those reported in the older literature on estimations of acidity of gastric juice following test meals.

3. EXPERIMENTAL METAPLASIA.—By DR. G. M. SMITH

In the fundus of the human stomach under pathologic conditions are found occasionally small areas of epithelium resembling that of the intestine. Epithelium of this character may develop as a result of chronic inflammation or in the edges of ulcers. Carcinoma of the stomach is composed of cells which morphologically resemble more closely the epithelium of the intestine and the pylorus than the highly specific peptic and hydrochloric acid cells of the fundus. By implanting flaps of mucous membrane from the fundus of the stomach of the dog into various parts of the intestine, a reversion of highly differentiated chief and parietal cells to a simple mucus forming cell was observed. The experiments furnish evidence that gastric epithelium possesses the property of transformation within certain limitations.

ADAIR COUNTY MEDICAL SOCIETY

The Adair County Medical Society held its regular monthly meeting November 2 in the offices of Drs. Martin and Parrish, Kirksville, with the following members present: Drs. J. W. Martin, A. W. Parrish, E. C. Callison, E. S. Quinn, J. F. Dodson, J. S. Gashwiler, M. E. Derfler and B. B. Parrish. The minutes of the previous meeting were read and approved.

Under the head of miscellaneous business the subject of Baby Health Conference was taken up and it was decided to hold the conference with the Woman's Club of the county and the First District State Normal School cooperating with the Adair County Medical Society and arrangements completed to hold this conference on December 4 in conjunction with the Rural Life Conference.

This being the night for election of officers the following were elected: B. B. Parrish, president; M. E. Derfler, vice president; J. W. Martin, secretary; E. C. Callison, member of board of censors.

Dr. A. W. Parrish read an interesting and instructive paper on abscess of liver with report of a case and the postmortem findings. This case brought forth much discussion by all members and was closed by Dr. Parrish.

No further business coming before the society, adjournment was taken to December 2, to meet in the offices of Drs. Martin and Parrish.

Meeting of December 2

The Adair County Medical Society held its regular monthly meeting, December 2, in the offices of Drs. Martin and Parrish, Kirksville, with the following members present: Drs. A. W. Parrish, J. W. Martin, E. S. Quinn, E. C. Callison, J. F. Dodson, J. S. Gashwiler, M. E. Derfler and B. B. Parrish.

The minutes of the previous meeting were read and approved. The final arrangements for the Baby Health Conference were made and members were assigned to the following sections: Drs. J. W. Martin and J. F. Dodson, mental department; Dr. E. C. Callison to eye, ear, nose and throat department; Drs. M. E. Derfler, A. W. Parrish and E. S. Quinn to physical examination and Drs. B. B. Parrish and J. S. Gashwiler, measurements. In addition, Miss Gertrude Hensley,

a trained nurse, was assigned to the department of general inspection of babies.

These babies were all examined before being entered and if they demonstrated elevation of temperature or any skin eruptions or inflamed throat they were not allowed to enter the conference. Dr. Bert Parrish read a paper on the radical cure of hernia, which was discussed by all members present, Dr. Parrish closing. No further business coming before the society, adjournment was taken to the first Thursday in January, 1916.

BERT B. PARRISH, M.D., Reporter.

BUCHANAN COUNTY MEDICAL SOCIETY

The Buchanan County Medical Society met in regular session in their rooms Wednesday evening, Dec. 1, 1915. Fifty-nine members were present, with Dr. F. J. Owens in the chair.

The banquet committee reported that they were unable to complete arrangements by December 15 and requested further time, which was granted.

The following committees were called on for reports but each requested further time: Missouri valley meeting committee, committee on newspaper, committee on welfare board, executive committee and public health and legislation committee.

The program committee, through its chairman, Dr. Gebhart, reported satisfactory results from the circular letter sent out and reported having the program filled up to May 1, 1916.

Dr. C. A. Good reported for his committee, whose duties were to meet with the city board of health, that they had had several meetings and expected to formulate their program and present it at a later date. The importance of reporting contagious cases was emphasized and neglect of the attending physician to do so seemed to be the principal offence.

The next order of business was the election of officers for 1916, which resulted as follows: Dr. Charles Geiger, president; Dr. A. R. Timmerman, first vice president; Dr. T. J. Lynch, second vice president; Dr. W. F. Goetze, secretary; Dr. J. M. Bell, treasurer; Dr. P. I. Leonard, censor for three years—1916, 1917, 1918; Dr. Daniel Morton, delegate to serve two years—1916, 1917; Dr. L. J. Dandurant, alternate to serve two years—1916, 1917.

On motion of Dr. Ferguson, seconded by Dr. Gleaves, it was decided that our next meeting consist of a "smoker" and the customary arrangements be perfected by the program committee.

W. F. GOETZE, M.D., Secretary.

Meeting of December 15

The regular meeting of the Buchanan County Medical Society was held at Hotel Francis, Dec. 15, 1915. Thirty members were present, and the president, Dr. J. F. Owens, presided. In the absence of the secretary, the reading of the minutes of the previous meeting was dispensed with.

The banquet committee was granted further time to report, as was also the committee appointed to consult with the welfare board.

Dr. Morton reported progress for the committee on arrangements for the coming meeting of the Missouri Valley Medical Association. The committee on public health and legislation was instructed to advise the city board of health concerning Dr. Reimer's patent tampon, he having applied for a permit to sell it by solicitation of agents, and report at the next meeting.

Dr. J. M. Bell read the paper of the evening entitled "Study of the Ascending Colon." The paper was discussed by Drs. H. Forgraves and Daniel Morton and the discussion closed by Dr. Bell.

After an enjoyable lunch speeches were made by Dr. A. Jolly of Hamburg, Iowa; Dr. G. R. Thompson, superintendent of State Hospital No. 2, and Drs. Gray, Forgrave and Ferguson.

HERBERT LEE, M.D., Secretary pro tem.

CALDWELL COUNTY MEDICAL SOCIETY

The Caldwell County Medical Society met at Polo, December 2, with a fair attendance. The meeting was interesting and was mostly devoted to examining and discussing clinical cases, which were very instructive.

Dr. Howard Hill of Kansas City was present and gave us a good talk on surgery of the gallbladder. He also presented a number of pathologic specimens.

Dr. George H. Hoxie of Kansas City delivered a splendid address on the differential diagnosis of abdominal diseases.

The following officers were reelected for 1916: Dr. Tinsley Brown, president; Dr. L. M. Mount, vice president; Dr. S. D. Smith, secretary and treasurer; Drs. W. T. Lindley, J. E. Gartside and I. N. Parrish, censors.

The next meeting will be held in Hamilton on the third Thursday in January.

S. D. SMITH, M.D., Secretary.

CAPE GIRARDEAU COUNTY MEDICAL SOCIETY

The Cape Girardeau County Medical Society met in the Commercial Club rooms November 8 at 8:00 p. m., with eight active members present and Dr. Garner of Crosstown as visitor. The courtesy of the society was extended the visiting doctor and his application for membership, together with that of Dr. Arthur Poe of Fruitland was presented.

Dr. Hope presented a Roentgen-ray plate of a forward dislocation of the elbow with no fracture. He also presented a case of gangrene following an appendiceal operation, sloughing off of the skin and deeper structures. This case proved to be of tubercular origin.

Dr. Porterfield, Jr., reported a case similar to the second one by Dr. Hope.

Dr. Garner reported a case of a child 4 days old with double cleft and harelip. He reported a second case which was a tumor of tibia which, by medication, he believes is being reduced; he noticed that by discontinuing the medicine, the tumor enlarged. The doctor has promised to present the case at a future meeting.

A liberal discussion of the case reports resulted, and there being no further business, the society adjourned.

Meeting of December 14

The Cape Girardeau County Medical Society held its regular monthly meeting, December 14, in the Commercial Club Rooms, with thirteen members present.

The application of Dr. Arthur Poe of Fruitland received attention and the doctor was elected a member of the society.

The following officers were elected for 1916: Dr. G. B. Schulz, president; Dr. W. A. Ninestedt, vice president; Dr. E. H. G. Wilson, secretary; Dr. W. N. Howard, treasurer; members of the board of censors: Dr. H. L. Cunningham for one year, Dr. R. F. Wichterich for two years, Dr. G. W. Vinyard for three years; delegate, Dr. W. E. Yount.

A score of Cape Girardeau physicians as well as three from Jackson County attended the meeting, and

the many who were present discussed the proposition of making the organization much more active than it has been in the last year. The medical association has a membership of about forty doctors and surgeons in the county, and through the program committee's activities, it is planned to make the organization mean more to its members.

A committee consisting of Drs. G. W. Vinyard, R. T. Henderson and W. N. Howard were appointed to draw up resolutions on the death of Dr. George W. Tarlton to be presented to the family and be made a part of the society records.

There being no further business to attend to, the Society adjourned.

E. H. G. WILSON, M.D., Secretary.

CASS COUNTY MEDICAL SOCIETY

The Cass County Medical Society met in Harrisonville, Thursday, December 9. The following members and visitors were present: Drs. W. F. Chaffin, H. S. Crawford, S. W. Fair, M. P. Overholser, B. B. Tout, J. S. Triplett. Visitors: Drs. H. E. Pearse and Edwin L. Miller of Kansas City, and Hon. D. C. Barnett of Harrisonville. The program was as follows:

The Roentgen-Ray Diagnosis of Gastro-Intestinal Troubles, by S. W. Fair.

Peptic Ulcers (illustrated by lantern slides), by Edwin L. Miller, Kansas City.

Medicolegal Matters, by Hon. D. C. Barnett.

Address by retiring president, M. P. Overholser.

Annual report of secretary-treasurer.

Election of officers.

The discussion of the papers was general and many points of interest were brought out. Dr. H. E. Pearse discussed the subject of duodenal ulcers very thoroughly.

The report of the secretary showed twenty-seven paid members, four delinquents and seven non-members.

The application of John W. Langley was received and referred to the board of censors.

The election of officers resulted as follows: president, Robert M. Miller; first vice president, B. B. Tout; second vice president, J. S. Triplett; secretary-treasurer, H. S. Crawford; member board of censors, J. S. Triplett; delegate, H. Jerard; alternate, H. S. Crawford.

The society tendered a vote of thanks to Drs. Pearse and Miller and to Hon. D. C. Barnett for their assistance in the program.

We hope the members will all give their support to the society for 1916 and help make the society better than ever.

H. S. CRAWFORD, M.D., Secretary.

CLAY COUNTY MEDICAL SOCIETY

The Clay County Medical Society met in Liberty at the Major Hotel, Monday evening, December 29.

Dr. C. R. Woodson of St. Joseph, president of our state association, gave an address on "The Importance of Recognizing Early Symptoms of Nervous Disease." Dr. Woodson's address was characteristic of him, and was full of salient points from beginning to end. He spoke over an hour, and at the outset complimented our society for its splendid work and urged us to "have our house in order for the coming state meeting next May." He predicted the greatest meeting in the medical history of Missouri. In his technical address he said we too often urged prompt action in surgical cases of minor importance, and at the same time allow the serious nervous case to drift into an incurable

stage and into the asylum or a suicide's grave. He warned against regarding lightly such symptoms as insomnia, melancholia, inability to concentrate and fear of mental failure on part of the patient. "A man can get along fairly well with a diseased appendix or kidney, but what will become of the poor fellow without a mind? Overworked business men come to us shattered in nerve-force begging for something to make them sleep; something to cure at once, so they can get back to the counting-room. These men we dope and lock up the secretions, instead of sending them out into God's fresh air and sunshine where they could get well. Look at the overworked horse pulling too heavy a load; men can be overloaded, and it's happening every day." I wish I could quote more from the doctor's excellent address, but those who heard it will not forget.

Dr. Max Goldman of Kansas City followed Dr. Woodson with an excellent paper on "The Management of Chronic or Acute Urethritis." Dr. Goldman's paper dealt almost exclusively with the technic of applying the remedies. He would not attempt to add to the modern therapy but urged much greater care in treatment of the individual. More interest in the case, more careful observation and of all the essentials which made a satisfied patient, with the best possible relief from the infection. "Many a sufferer is treated as a joke and provided with a cheap syringe and a common-place injection for self-treatment—sent into the world to infect others or to do what he chooses—to stop treating if he thinks he is well, or to cuss the doctor for not curing him." Then he has but a short step to the nostrum and from that to an utterly hopeless condition. Dr. Goldman has devised a set of instruments for intra-urethral treatment which he demonstrated before the society.

This was one of our grandest and best meetings, and those who missed it are just that much behind.

J. J. GAINES, M.D., Secretary.

CLINTON COUNTY MEDICAL SOCIETY

The Clinton County Medical Society met at Lathrop, Dec. 22, 1915, and after being royally entertained and feasted on "possum and sweet taters" by our good friends, Dr. and Mrs. McConkey, we proceeded with our regular business, which consisted of discussions of various subjects of local interest to the medical profession and the election of officers for the ensuing year. The officers elected are: Dr. C. W. Chastain, Plattsburg, president; Dr. R. W. Rea, Plattsburg, vice president; Dr. M. L. Peters, Cameron, secretary-treasurer (reelected); Dr. P. M. Steckman, Plattsburg, delegate; Dr. C. H. Risley, Cameron, alternate.

M. L. PETERS, M.D., Secretary.

DUNKLIN COUNTY MEDICAL SOCIETY

The regular meeting of the Dunklin County Medical Society met at Kennett, Dec. 7, 1915. This was the annual meeting, and it was more of a social and business affair than scientific. There was a good attendance, the following members being present: Drs. J. D. Hess, president; T. J. Rigdon, secretary-treasurer; Paul Baldwin, vice president; E. G. Cope, W. P. Gossage, F. W. Speidel, J. J. Drace, Paul Tipton and L. J. Matlock; Dr. Redwine of Poplar Bluff was present as a visitor.

After the reading and approval of the minutes of the previous meeting, the society proceeded to collect dues for 1916 and elect officers for the ensuing year. Dr. P. L. Tipton was elected president; Dr. E. G. Cope, vice president; Dr. Earnest F. Harrison, secretary-treasurer, and Dr. J. J. Drace, censor for three years.

There being no regular scientific program, the members discussed several clinical cases, reviewed the work of the past year and offered some suggestions for the good of the society. After much good fellowship, the society adjourned until the next regular meeting, which is always the first Tuesday in the month.

T. J. RIGDON, M.D., Secretary.

FRANKLIN COUNTY MEDICAL SOCIETY

The Franklin County Medical Society met in regular session in the court house at Union, Tuesday, Nov. 2, 1915, Dr. A. L. McNay, president, in the chair.

The following members were present: Drs. A. L. McNay and D. E. Williams, Pacific; Dr. E. A. Stierberger, Union; Dr. I. M. Owens, Leslie; Dr. W. C. Miller, Labadie; Drs. O. N. Schudde, W. P. Mattox and J. P. Dunigan, Sullivan; Drs. John Isbell, J. D. Maupin, O. L. Muench and H. A. May, Washington.

The minutes of the regular meeting of Aug. 3, 1915, were read and approved. The treasurer's report, showing a balance of \$59.84, was read and adopted.

Applications for membership of Dr. Christiana V. Hammler, Union; Dr. David A. Seibert, Washington, and Dr. William E. Kitchell, St. Clair, were voted on, and Dr. Hammler was elected to membership in the society.

Election of officers for the ensuing year resulted as follows: Dr. Otto N. Schudde, Sullivan, president; Dr. Walter P. Mattox, Sullivan, vice president; Dr. H. A. May, Washington, secretary-treasurer; Dr. I. M. Owens, Leslie, member board of censors for three years, taking the place of Dr. H. A. May, whose term of office expired. The board of censors as now constituted, with the indicated time to serve, is as follows: Dr. A. L. McNay, one year; Dr. H. A. Booth, two years; Dr. I. M. Owens, three years.

The members on program for this meeting were unfortunately prevented from attending so no program was given.

The next regular meeting will be held in Union on the first Tuesday in February, 1916.

H. A. MAY, M.D., Secretary.

GREENE COUNTY MEDICAL SOCIETY

The annual meeting of the Greene County Medical Society was held, December 10, at Springfield, Dr. A. L. Anderson presiding.

The society has a membership of seventy-eight, of whom forty-three were present at this meeting. The average attendance for the year has been 30.5. The society has lost three members by death, namely, Dr. Thomas Doolin, his son, Dr. Thomas Carl Doolin, and Dr. Henry J. Ruyle; two members were dropped for nonpayment of dues and one removed from the state. Two members have been added on application and six on transfer from other societies, a net gain of two members.

The program committee prepared an excellent program the first of the year, which was printed and distributed to all the members. This splendid program has probably encouraged the increased interest and good attendance. The following very excellent papers have been read during the year by men from other societies:

March 12: "Experimental and Clinical Study of Gastric Ulcer," by Dr. Willard Bartlett, St. Louis.

April 9: "Referred Pain in Abdominal Disease," by Dr. J. F. Binnie, Kansas City.

September 24: "Some Points in Medical Jurisprudence," by Hon. J. T. White and Hon. P. T. Allen, Springfield.

October 28: "Spontaneous Nontuberculous Pneumothorax," by Dr. Elsworth Smith, Jr., St. Louis.

On October 8, Dr. E. J. Goodwin addressed the society on the "Work of the State and County Societies." In fact, there has not been a dull meeting this year.

The committee on medical legislation should receive the thanks and support of every member of the society for the work done in attempting to rid the city of quacks and charlatans. J. W. Fenter a chiropractor, was tried, convicted and fined \$50 for practicing medicine without a license. There are three other counts against him for the same offense and which come to trial this month. This work has been done notwithstanding a seeming indifference on the part of the prosecuting attorney to prosecute these offenders.

In October the president, Dr. A. L. Anderson, appointed a committee, consisting of Drs. F. B. Fuson, chairman, W. P. Patterson and J. C. Matthews, to confer with the county court relative to the establishment of a county tuberculosis sanatorium. This committee received encouragement from the county court, and by Jan. 1, 1916, steps will be taken for financing and building the sanatorium.

On December 10 the following officers were elected for the ensuing year: Dr. W. S. Hopkins, president; Dr. C. W. Russell, vice president; Dr. T. O. Klingner, secretary (reelected); Dr. E. F. James, treasurer (reelected); Dr. W. P. Patterson, censor, three years (reelected); Dr. A. L. Anderson, delegate two years; Dr. F. B. Fuson, alternate, two years.

THOMAS O. KLINGNER, M.D., Secretary.

HENRY COUNTY MEDICAL SOCIETY

The Henry County Medical Society met in regular session, Wednesday, Dec. 8, 1915, in the court house at Clinton. The meeting was called to order by the vice president, Dr. W. H. Gibbins, at 2:30 p. m. The following members were present: Drs. W. H. Gibbins, Wm. P. Bradley, W. R. Campbell, J. R. Hampton, J. G. Bealey, C. W. Head, J. W. Walton, E. C. Peelor, R. J. Jennings, M. E. Bradley and F. M. Douglass. The minutes of the last meeting were read and approved.

Dr. J. H. Walton read a paper on "The Diagnosis of Disease," a good subject and well treated, going into the details why a complete knowledge of the case should be had and a record made of it, using all the known means to accomplish it; that the only true manner of treating all cases presenting themselves was to take the time to find each symptom in turn, make all the tests necessary to come to a proper understanding of the cause of the trouble and how far advanced. He said the records show that 47 per cent. of cases were not diagnosed at all. This paper was discussed by all present.

Dr. Will P. Bradley, superintendent of State Hospital No. 3, Nevada, said it was an excellent paper but he thinks the fees charged are too small to enable us to make a complete diagnosis; that we need more laboratory facilities and a microscope to do it properly; that the physicians should get together and work out the problem by each taking a part of the work to do and perfect himself on that line.

The election of officers for the year 1916 resulted as follows: Dr. C. W. Head, president; Dr. W. R. Campbell, vice president; Dr. F. M. Douglass, secretary-treasurer; Dr. J. H. Walton, delegate to the state medical association; Dr. A. J. McNees, alternate delegate; Dr. J. R. Hampton, censor until 1918; Dr. E. C. Peelor, censor until 1919.

Dr. J. G. Beatey paid his dues and was restored to good standing.

F. M. DOUGLASS, M.D., Secretary.

LAWRENCE-STONE COUNTY MEDICAL SOCIETY

The Lawrence-Stone County Medical Society met at Aurora at 10 o'clock a. m., Dec. 7, 1915, the president, Dr. W. S. Loveland, in the chair. The following members were present: Drs. D. C. Adams, C. A. Moore, T. D. Miller, F. S. Stevenson, R. C. Robertson, J. A. Melton, W. S. Loveland, J. W. Smith, J. A. Harris, J. B. Scott, J. P. Andrews, W. M. Holmes, H. L. Kerr, J. E. Dewey and H. A. Lowe.

After roll call and the reading of the minutes of the preceding meeting, the election of officers for 1916 resulted as follows: Dr. St. Clair Shumate, Reed Springs, president; Dr. C. A. Moore, Aurora, vice president; Dr. R. C. Robertson, Aurora, secretary (reelected); Dr. F. S. Stevenson, Aurora, treasurer (reelected); Dr. H. L. Kerr, Crane, delegate; Dr. J. P. Andrews, Marionville, alternate; Dr. H. L. Kerr, Crane, censor for three years.

Dr. Timothy T. O'Dell of Marionville made application for membership by transfer from Reynolds County Medical Society. The board of censors reported favorably on his application and he was accepted as a member.

The society adjourned for lunch and met again at 1 o'clock, when the following program was rendered: Dr. J. B. Scott, Marionville, read a paper on "Pneumonia"; Dr. C. A. Moore, Aurora, read a paper on "Tonsillitis"; Dr. J. E. Dewey, Springfield, read a paper on "Surgical Diseases of the Liver and Gallbladder."

On motion the society adjourned to meet at Aurora, March 7, 1916.

R. C. ROBERTSON, M.D., Secretary.

MONTGOMERY COUNTY MEDICAL SOCIETY

At the regular meeting of the Montgomery County Medical Society, held at the Hanover Hotel in Montgomery City, Tuesday, December 14, Dr. H. W. Ford of Middletown was reelected president for the coming year, Dr. George E. Prewitt of Wellsville, vice president, and Dr. G. E. Muns of Montgomery City reelected secretary-treasurer.

Dr. E. A. Hudson of Wellsville was elected delegate to the next annual meeting of the Missouri State Medical Association and Dr. J. W. Fowler was elected alternate.

Dr. Charles Wyche of St. Louis was a guest of the society. He delivered a very interesting and instructive address and also conducted a clinic on diseases of the ear, nose and throat. The members present expressed their appreciation of Dr. Wyche's clinical work, which was very skilfully done in spite of quite poor accommodations.

Dr. A. R. McComas of Sturgeon, councilor of the district, was present and spoke along the line of better organization.

Members present were: Drs. J. M. Foreman, Jonesburg; J. A. Best, High Hill; B. F. Holcomb and E. E. Evans, New Florence; J. A. Bellamy and J. H. Fowler, Bellflower; S. S. Cox, E. A. Hudson, George E. Prewitt and Thomas H. Diven, Wellsville; David Nowlin, G. E. Muns, D. O. Hudson and E. W. Tinsley, Montgomery City, and H. W. Ford, Middletown.

G. E. MUNS, M.D., Secretary.

PERRY COUNTY MEDICAL SOCIETY

The Perry County Medical Society met in regular session at the City Hall, Perryville, December 6, with President Blaylock in the chair. The following physicians were present: Geo. A. Blaylock, D. F. Morton, W. H. Barks and F. M. Vessells.

Dr. W. H. Barks reported an interesting case of persistent hemorrhage from the alveolar process following an abscess and lancing. The physicians present

each had a remedy, all of which Dr. Barks promised to use and report results at the next meeting.

On motion it was decided to meet at Dr. Morton's office at 7:30 p. m. Monday, Jan. 3, 1916.

F. M. VESSELLS, M.D., Secretary.

PIKE COUNTY MEDICAL SOCIETY

The Pike County Medical Society held its regular meeting in Louisiana, Dec. 6, 1915, with the following members present: Drs. C. P. Lewellen, T. Guy Hetherlin, James W. Dreyfus, C. L. Bankhead, R. J. Guy and F. V. Keeling.

Dr. Roy J. Guy of New Hartford was elected to membership in the society.

This being our annual meeting, the election of officers for the ensuing year took place, and the following were elected: president, Dr. C. P. Lewellen; first vice president, Dr. R. J. Guy; second vice president, Dr. C. E. Gibbs; third vice president, Dr. W. R. Hardin; secretary, Dr. F. V. Keeling; treasurer, Dr. J. W. Dreyfus; delegate, Dr. C. P. Lewellen; alternate, Dr. T. G. Hetherlin. The next meeting will be held at Clarksville in January, 1916.

F. V. KEELING, M.D., Secretary.

PLATTE COUNTY MEDICAL SOCIETY

The Platte County Medical Society held their regular meeting at the home of Dr. Spence Redman in Platte City, Dec. 1, 1915, and there enjoyed the hospitality of Dr. and Mrs. Redman in the form of an elaborate turkey dinner. After all had partaken of the sumptuous feast to the fullest extent, the society was called to order by the president, Dr. Lewis C. Calvert of Weston. Present were Drs. Calvert, Redman, Naylor, Hale, Coffey and Herndon.

The board of censors having reported favorably on the application of Dr. Lee Winemiller of Farley, he was by vote elected a member of the society.

This being the month for election of officers for 1916, Dr. G. C. Coffey of Linkville was elected president; Dr. Alva Naylor of Platte City, vice president; Dr. A. S. Herndon of Camden Point, secretary-treasurer; Dr. L. C. Calvert of Weston, member of the board of censors for three years; Dr. Alva Naylor of Platte City, delegate to the state association meeting next May.

After a vote of thanks to our hostess for her hospitality and kind feeling toward the medical profession, the society adjourned, peace and harmony prevailing.

A. S. HERNDON, M.D., Secretary.

WEBSTER COUNTY MEDICAL SOCIETY

The Webster County Medical Society held its annual meeting at Marshfield, December 14, with the president, Dr. Good, in the chair.

The minutes of the last meeting were read and approved; also the report of the treasurer.

The application of Dr. E. V. Rawlins of Marshfield was referred to the board of censors, who reported favorably, and Dr. Rawlins was elected a member of the society.

The election of 1916 officers resulted as follows: Dr. W. A. Adkins, president; Dr. T. S. Bruton, vice president; Dr. J. R. Bruce, secretary-treasurer (reelected); Dr. W. J. Rabenau, delegate, and Dr. Messer Highfill, alternate.

It is with much pride that we forward to the Secretary of the State Association our check for \$30, covering the 1916 dues of our entire membership. We want to be the first on the Roll of Honor this year.

It was voted to hold our next meeting at Rogersville the third Wednesday in March, 1916.

On motion, the meeting adjourned at 2:30 p. m.

JOHN R. BRUCE, M.D., Secretary.

THE TRUTH ABOUT MEDICINES

NEW AND NONOFFICIAL REMEDIES

Since publication of New and Nonofficial Remedies, 1915, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

EURESOL PRO CAPILLIS.—Euresol (see New and Nonofficial Remedies, 1915, p. 268) perfumed to render it suitable for scalp lotions. Merck & Co., New York (*Jour. A. M. A.*, Dec. 4, 1915, p. 2009).

POLLEN EXTRACT (POLLEN VACCINE).—A solution of pollen protein. It is used for the relief or prophylaxis of a common type of hay fever (pollinosis). Before using it the patient's susceptibility and tolerance should be determined. Treatment with pollen extract has seemed to give relief in some cases.

HAY FEVER VACCINE, MULFORD (AUTUMNAL).—Pollen extract prepared from ragweed. Marketed in packages of four syringes containing, respectively, 0.0025 mg., 0.005 mg., 0.01 mg. and 0.02 mg. of pollen protein. Also in separate syringes containing 0.02 mg. pollen protein. The H. K. Mulford Co., Philadelphia (*Jour. A. M. A.*, Dec. 4, 1915, p. 2009).

MERCURIC SUCCINIMIDE, MERCK.—A nonproprietary brand of mercuric succinimide admitted to New and Nonofficial Remedies. Merck & Co., New York (*Jour. A. M. A.*, Dec. 4, 1915, p. 2009).

MORPHINE MECONATE, MERCK.—A nonproprietary brand of morphine meconate admitted to New and Nonofficial Remedies. Merck & Co., New York (*Jour. A. M. A.*, Dec. 4, 1915, p. 2009).

SWAN'S STAPHYLOCOCCUS BACTERIN (No. 37).—Marketed in packages of six 1 Cc. vials and in 20 Cc. vials. Swan-Myers Company, Indianapolis, Ind.

SWAN'S STREPTOCOCCUS BACTERIN (No. 43).—Marketed in packages of six 1 Cc. vials and in 20 Cc. vials. Swan-Myers Company, Indianapolis, Ind.

CALCIUM PEROXIDE, MERCK.—A nonproprietary brand of calcium peroxide admitted to New and Nonofficial Remedies. Merck & Co., New York.

SODIUM PEROXIDE, MERCK.—A nonproprietary brand of sodium peroxide admitted to New and Nonofficial Remedies. Merck & Co., New York.

ZINC PEROXIDE, MERCK.—A nonproprietary brand of zinc peroxide admitted to New and Nonofficial Remedies. Merck & Co., New York.

ETHYL SALICYLATE, MERCK.—A nonproprietary brand of ethyl salicylate admitted to New and Nonofficial Remedies. Merck & Co., New York.

OSMIC ACID, MERCK.—A nonproprietary brand of osmium tetroxide admitted to New and Nonofficial Remedies. Merck & Co., New York.

SODIUM OLEATE, MERCK.—A nonproprietary brand of sodium oleate admitted to New and Nonofficial Remedies. Merck & Co., New York.

THIOSINAMINE, MERCK.—A nonproprietary brand of thiosinamine admitted to New and Nonofficial Remedies. Merck & Co., New York.

UREA, MERCK.—A nonproprietary brand of urea admitted to New and Nonofficial Remedies. Merck & Co., New York.

AMPULS SODIUM CACODYLATE, MULFORD, 7¾ GRAINS.—Each ampule contains sodium cacodylate 0.5 Gm. H. K. Mulford Company, Philadelphia.

AMPULS SODIUM CACODYLATE, MULFORD, 15 GRAINS.—Each ampule contains sodium cacodylate 1 Gm. H. K. Mulford Company, Philadelphia.

AMPULS SOLUTION PITUITARY EXTRACT, MULFORD, 0.5 Cc.—Each ampule contains solution pituitary extract 0.5 Cc. H. K. Mulford Company, Philadelphia (*Jour. A. M. A.*, Dec. 11, 1915, p. 2085).

SCARLATINA STREPTO-SEROBACTERIN, MULFORD (THERAPEUTIC), (SENSITIZED SCARLATINAL STREPTOCOCCIC VACCINE).—Marketed in packages of four syringes. H. K. Mulford Co., Philadelphia (*Jour. A. M. A.*, Dec. 18, 1915, p. 2167).

QUININE DIHYDROCHLORIDE (QUININAE DIHYDROCHLORIDUM).—The dihydrochlorid of the alkaloid quinine. Since quinine dihydrochloride is very soluble, its use has been proposed where concentrated solutions of quinine are wanted, as for subcutaneous injections and similar purposes.

AMPULS SOLUTION PITUITARY EXTRACT, MULFORD, 0.24 GM.—Each ampule contains 0.24 Gm. quinine dihydrochloride in 1 Cc. of sterile solution. H. K. Mulford Co., Philadelphia.

AMPULS QUININE DIHYDROCHLORIDE, MULFORD, 0.5 GM.—Each ampule contains 0.5 Gm. quinine dihydrochloride in 1 Cc. of sterile solution. H. K. Mulford Co., Philadelphia (*Jour. A. M. A.*, Dec. 18, 1915, p. 2167).

PURIFIED TRICRESOL, MULFORD.—A mixture of isomeric cresols, corresponding closely to Cresol, U. S. P. H. K. Mulford Co., Philadelphia (*Jour. A. M. A.*, Dec. 18, 1915, p. 2167).

IODOSTICKS (IODINE 60 PER CENT. AND POTASSIUM IODIDE 40 PER CENT.).—Wooden sticks 1½ inches long, tipped with a mixture of iodine 60 per cent. and potassium iodide 40 per cent. Antiseptic Supply Co., New York (*Jour. A. M. A.*, Dec. 18, 1915, p. 2167).

IDOAPPLICATORS AND IODOAPPLICATORS, SPECIAL (IODINE 60 PER CENT. AND POTASSIUM IODIDE 40 PER CENT.).—Wooden sticks 6½ and 12 inches long, respectively, tipped with a mixture of iodine 60 per cent. and potassium iodide 40 per cent. Antiseptic Supply Co., New York (*Jour. A. M. A.*, Dec. 18, 1915, p. 2167).

G. STROPHANTHIN (THOMS), MERCK.—A nonproprietary brand of ouabain, crystallized. Merck and Company, New York.

MERCURY BINIODIDE OIL SOLUTION IN AMPULES, H. W. AND CO.—Onc Cc. of solution contains red mercuric iodide in a neutral fatty oil, 0.1 Gm. (¼ grain). Hynson, Westcott and Co., Baltimore.

MERCULOL TABLETS, ¼ GR.—Each tablet contains mercuriol 0.016 gm. Parke, Davis and Co., Detroit.

MERCULOL TABLETS, ½ GR.—Each tablet contains mercuriol 0.03 gm. Parke, Davis and Co., Detroit.

MERCULOL TABLETS, 1 GR.—Each tablet contains mercuriol 0.065 gm. Parke, Davis and Co., Detroit.

MERCULOL TABLETS, 2 GRs.—Each tablet contains mercuriol 0.13 gm. Parke, Davis and Co., Detroit.

MERCULOL WITH POTASSIUM IODIDE TABLETS.—Each tablet contains mercuriol ¼ gr. and potassium iodide 1 gr. Parke, Davis and Co., Detroit.

IODALBIN AND MERCULOL TABLETS.—Each tablet contains iodalbum 5 grs. and mercuriol 1 gr. Parke, Davis and Co., Detroit.

LIQUID PETROLATUM, MERCK.—A nonproprietary brand of liquid petrolatum, U. S. P. It is made from American petroleum. It is colorless, non-fluorescent, practically odorless and tasteless. Merck and Co., New York (*Jour. A. M. A.*, Dec. 25, 1915, p. 2239).

PROPAGANDA FOR REFORM

PROPRIETARY DIGITALIS PREPARATIONS.—The Council on Pharmacy and Chemistry reports that it is becoming increasingly apparent that the tincture of digitalis produces the full therapeutic effects of digitalis, and that when it is properly made it is as stable as any liquid preparation of digitalis now available; and that the tincture has the systemic side actions of digitalis, including the emetic, in no greater degree than the various proprietary preparations of this drug. Strophanthin and crystallized ouabain are now available in sterile solutions in ampules and afford a convenient means of promptly securing the cardiac action by intramuscular or intravenous injection (*Jour. A. M. A.*, Dec. 4, 1915, p. 2024).

DR. PIERCE'S PLEASANT PELLETS.—The A. M. A. Chemical Laboratory reports that the pills responded to tests for emodin and aloin. Essentially, Pierce's Pleasant Purgative Pellets appear to be an ordinary laxative pill. That the active principle of aloes was found in the pills is of interest in view of the fact that the leaflet advertising Pierce's Pleasant Pellets warns the public against the use of purgatives composed of aloes (*Jour. A. M. A.*, Dec. 4, 1915, p. 2025).

NOSE-IONS.—The A. M. A. Chemical Laboratory reports that the circular matter for "Nose-Ions" is a crude attempt to impose on a scientifically trained profession with pseudo-scientific patter about ions, ionic dissociation and the positive and negative charges of ions. It appears that Nose-Ions is essentially an ointment consisting of a petrolatum base, containing some odorous principles such as camphor, menthol and eucalyptus, with some salicylic acid and some quinine (*Jour. A. M. A.*, Dec. 4, 1915, p. 2026).

OZOMULSION.—This "patent medicine," long sold as a consumption "cure," has been declared misbranded under the Food and Drugs Act, the therapeutic claims being both false and fraudulent. The preparation was found to be an emulsion of cod liver oil, with glycerine and phosphorus compounds of calcium and sodium (*Jour. A. M. A.*, Dec. 18, 1915, p. 2184).

DR. WHITTINGTON'S TREATMENT FOR CONSUMPTION.—This preparation was examined in the A. M. A. Chemical Laboratory. From the analysis it appears that Dr. Whittington's Treatment for Consumption is a flavored syrup devoid of potent ingredients other than alcohol. Dr. Whittington is a member of the Medical Society of California (*Jour. A. M. A.*, Dec. 18, 1915, p. 2184).

ROGERS' CONSUMPTION CURE.—Rogers' Consumption Cure and Cough Lozenges and Rogers' Inhalant were advertised for the treatment of diseases of the lungs, etc. The government chemists reported that the first consisted of sugar lozenges, containing a small amount of gum and a trace of oil of rosemary. The inhalant was found to be an alcoholic solution of volatile oil, chiefly rosemary. The government held the therapeutic claims made for these preparations false. The owners having made no defense, they were fined (*Jour. A. M. A.*, Dec. 18, 1915, p. 2185).

MIST. HELONIN COMP.—The only available information in regard to the composition of Mist. Helonin Comp., Schlotterbeck and Foss, is a statement in a circular that the active ingredients are helonin, senecin and avenin and the statement on the label that it contains 45 per cent. alcohol. The alcohol content is that of strong whiskey. The practically inert drugs asserted to be contained in it would not in the least interfere with its use as a cordial. On the basis of the information supplied by the manufacturer, Mist. Helonin Comp. may be classified as an objectionable and worthless nostrum—unless we regard the alcohol as of value (*Jour. A. M. A.*, Dec. 18, 1915, p. 2186).

INCOMPATIBILITY OF QUININE WITH ASPIRIN.—Experiments have shown that weak acids, such as acetylsalicylic acid (aspirin), citric, malic, acetic or tartaric acid under the influence of heat may convert quinine into its poisonous isomer quinotoxin and cinchona into cinchotoxin. The danger of the formation of quinotoxin in the body cannot be great. Ready-made mixtures of quinine or cinchona preparations with weak organic acids should be avoided (*Jour. A. M. A.*, Dec. 18, 1915, p. 2187).

SALVARSAN MADE IN U. S.—Because of the shortage due to the war, salvarsan is made and offered for sale under its chemical name to physicians and hospitals urgently in need of it by the dermatologic laboratories of the Philadelphia Polyclinic. Dr. Jay F. Schamberg, the director of the Department of Dermatological Research, states that the product made by the dermatologic laboratories has been employed on hundreds of cases with excellent therapeutic results and with no reports of accident or untoward complications (*Jour. A. M. A.*, Dec. 18, 1915, p. 2179).

CU-CO-BA, TARRANT.—From the statements of the circulars, it appears to be one of the copaiba and cubeb preparations which at one time were in vogue as a routine measure in the treatment of gonorrhea (*Jour. A. M. A.*, Dec. 25, 1915, p. 2257).

POSLAM.—The A. M. A. Chemical Laboratory in 1909 found that essentially Poslam consisted of zinc oxide 12.01 parts, sulphur 6.67 parts, corn starch 22.00 parts, tar oil 15.18 parts, menthol and salicylic acid, small quantities, fatty base to make 100 parts. For skin affections which may be benefited by ointments the official ointments are as effective as the proprietary products and have the added advantage of being of known and more uniform composition (*Jour. A. M. A.*, Dec. 25, 1915, p. 2256).

ORTHOFORM-NEW.—Treasury Decision 2194 contemplates registration of orthoform-new under the Harrison Narcotic Law (*Jour. A. M. A.*, Dec. 25, 1915, p. 2257).

BOOK REVIEWS

THE MODERN HOSPITAL FOR DECEMBER.

This issue presents as the illustration on its front cover a cut of the St. Louis Children's Hospital, and the leading article in the text describes the institution and its facilities written by the architects, Mauran, Russell and Crowell, and Drs. S. S. Goldwater and Borden S. Veeder. There are nine other original articles on a variety of subjects connected with hospital work, with the usual diversity of comment, making up an edition of 76 pages of text matter.

SURGERY, GYNECOLOGY AND OBSTETRICS FOR DECEMBER.

This issue presents fourteen original articles. The leading article by Drs. E. Granville Crabtree and Hugh Cabot of Boston. The department of technic, the abstract department and the bibliography of current literature fill the rest of the book, which contains a total of 217 reading pages. The index is elaborate.

THE MEDICAL CLINICS OF CHICAGO FOR NOVEMBER.

This issue contains descriptions of cases from the clinics of Drs. Charles S. Williamson, Cook County Hospital; Ralph C. Hamill, Cook County Hospital; Frederick Tice, Cook County Hospital; Isaac A. Abt, Michael Reese Hospital; Robert B. Preble, St. Luke's Hospital; Walter W. Hamburger, Cook County Hospital; Charles L. Mix, Mercy Hospital, and Richard J. Tivnen, Mercy Hospital.

ANNALS OF SURGERY FOR DECEMBER.

This issue contains an article on "Primary Sarcoma of the Gallbladder" by Dr. N. B. Carson and Dr. George M. Smith of St. Louis. Dr. Stanley Cobb of Boston has the leading article on "Hemangioma of the Spinal Cord." Among the other articles presented are: "The Conservative Treatment of Intrinsic Cancer of the Larynx by Thyreocricotomy (Total Laryngofissure) or Thyrotomy (Partial Laryngofissure) by Dr. George D. Stewart of New York; "Suppurative Pericarditis," by Dr. G. B. Rhodes of Cincinnati; "Splenectomy for Splenic Anemia in Childhood and for the Splenic Anemia of Infancy," by Dr. H. Z. Giffin of the Mayo Clinic; "Resection of the Cardia for Carcinoma," by Dr. Willy Meyer of New York; "The Prostate Gland in Old Age," by Dr. Oswald S. Lowsley of New York; "Decompression Under Local Anesthesia," by Dr. Herbert P. Cole of Mobile and others. There are 126 pages in the issue which closes the volume, adequately indexed.

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ORIGINAL ARTICLES

TRANSPLANTATION OF TIBIA IN THE SPINE FOR KYPHOSIS

B. BELOVE, M.D.
KANSAS CITY, MO.

Patient, aged 41, white, occupation, horseman. Family history, negative. Previous history, gonorrhea twenty years ago. Present history, duration four years. Horse fell on him four years ago and trouble has been developing ever since. In hospital in Billings,

Examination of muscles and bones: Left psoas-iliacus negative; right-negative. Left abductors restricted; right-negative. Left quadriceps, restricted, right-negative. Muscles of the left foot restricted, especially anterior group; muscles of the right foot-negative.

Measurements: The circumference of the left calf, 9.25 inches; right calf, 12.5 inches; atrophy, 3.25 inches. The length of the left limb (relative), 22.5 inches. The length of the right limb (relative), 23 inches. One-half inch shortening (relative). The



Fig. 1.—Lateral view before operation.



Fig. 2.—Lateral view after operation.

Mont., for a number of months, and at Mayo's Hospital, Rochester. Night sweats last few nights. Pain around kyphos.

Physical Examination: Left limb smaller than the right. Kyphos in the lower dorsal. Examination of the back shows all motion restricted, especially posterior. Right lower dorsal, convex scoliosis. On standing there is pain in the peroneal region of the limb; there is sharp, constricting pain in the abdomen, also pains in the scaphoid region: pain in and to the right of kyphos.

length of the left limb (posit.), 35 inches; the length of the right limb (posit.), 35 inches; no shortening (positive). Roentgen ray shows a destructive process of (probably) tenth, eleventh and twelfth dorsal and first lumbar vertebrae. The circumference of the left thigh, 15 inches; of the right thigh, 18 inches; atrophy, 3 inches.

Urine examinations negative. Wassermann test negative. Sputum examination negative.

Treatment: For several months, plaster-of-Paris corrective jacket and finally operation.

The day before operation a large window was cut in the back of the correction cast. This was made large enough to allow sterilization of the field of operation. The usual antiseptics were used, bichlorid,

and painted with 3 per cent. iodine. A semicircular incision was made to the left of the kyphos including skin and subcutaneous tissues only. The flap thus made was dissected over the kyphos and to the right. The flaps were held by retractors. With a scalpel an incision was made through the supraspinous ligament

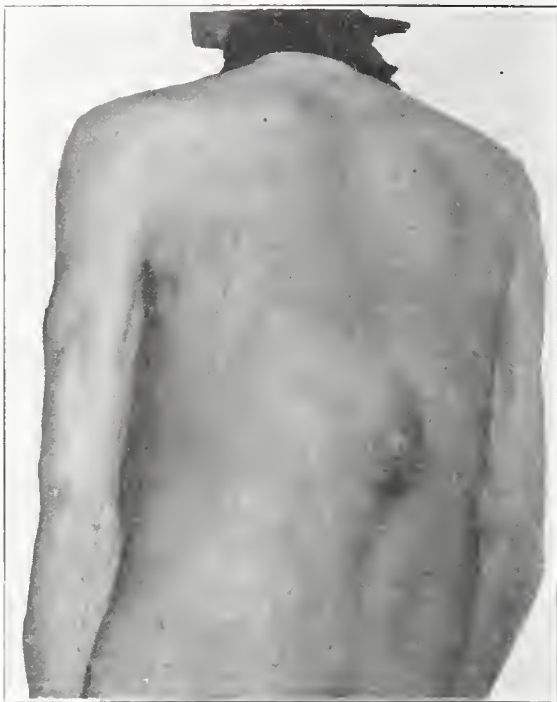


Fig. 3.—Posterior view before operation. Note inability to put scapulae together.



Fig. 4.—Posterior view after operation. Note ability to put scapulae together.

alcohol and iodine. The window was sealed with sterile gauze packings and adhesive plaster.

The dressings were removed with the cast intact. The patient was placed in the prone position and the field of operation cleaned with bichlorid and alcohol



Fig. 5.—View of diseased area before operation.

and the periosteum of the spinous processes of five dorsal and lumbar vertebrae. An incision was also made through the interspinous ligament about one-half inch deep; with chisel and mallet the spinous processes were split about a half inch deep and toward the right. Only one hemostat was used to control hemorrhage. The osseo-aponeurotic gutter thus made was packed with gauze saturated with salt solution.

Next the leg was flexed on the thigh, the right being selected and having it sterilized in the same manner as the field of operation over the spine, an incision

was made on the anterointernal surface of the tibia from the crest downward for about $5\frac{1}{2}$ inches, through the skin, subcutaneous tissue and fascia. The periosteum was cut and with chisel and mallet the transplant was cut out. This piece of bone was $5\frac{1}{2}$ inches long by three-eighths inch wide and an attempt was made to cut it to fit the curve of the spine. The medullary fluid flowed freely from the bone wound. In order to shape the transplant into the kyphotic gutter transverse sawing of the bone from the medullary surface toward the periosteal surface was attempted, but in the attempt the transplant was broken into three parts. These were fitted into the osseoponeurotic gutter. With kangaroo tendon sutures the gutter was closed over the transplant and included the supraspinous ligament, interspinous ligaments, periosteum and the vertebral aponeurosis; sev-

little in the back. At present his motions of the spine including the posterior are greatly improved. Sensory and motor disturbances greatly improved. The patient's health has improved to the extent that he is able to get about without assistance.

I thank Drs. Griggs and Michener, internes of the Kansas City General Hospital, for their valuable assistance.

517 Shukert Building.

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GASTRO-ENTEROSTOMY*

HERMAN E. PEARSE, M.D.
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One of the great changes that has come over the practice of medicine within the lifetime of many of us is the freedom with which the public now seeks relief by surgical means. Even in districts remote from hospitals and competent surgeons, a patient can scarcely receive a diagnosis of appendicitis without a suggestion for operation. The doctor who treats appendicitis by medical means is rare and his numbers are each year becoming fewer. A lump in a woman's breast is usually referred to a surgeon without the former wait "to see how it gets along." The same is true with the list of tumors and with calculi, renal and hepatic. They are promptly referred to the surgeon, and the laity expect a surgical operation when such a diagnosis is rendered. This is because of the good results obtained by modern surgery in modern hospitals. It is well it is so. It has brought great good to the afflicted, but it has brought added responsibilities to the medical profession.

It is a matter of some surprise to me, however, that the cure of gastric and duodenal ulcer by gastro-enterostomy has received so little popular approval. The laity still ask for medicine when they have stomach trouble. They do not look with favor upon the suggestion of surgical consultation for sour and painful indigestion. This is even so among the rank and file of the profession as well as among the laity. The majority of gastric ulcers are still overlooked, or if diagnosed, are treated medically. It is not unusual to find a doctor who will say that he never has had a case of gastric ulcer in his practice. The same doctor will admit treating many cases of hyperacidity and other painful dyspepsias, many of which are probably ulcer cases of a more or less chronic type. Nor are the laity so ready to follow the advice of



Fig. 6.—Arrows showing transplanted bone in good condition and has taken root.

eral rows of sutures being used. The skin was sutured and dressed in the usual way. The window was then closed with the several plaster bandages. The patient was then put to bed in the prone position. The tibial wound was dressed and elevated. There was some oozing from the tibial wound which was controlled by pressure bandages.

Since the operation the patient has complained of considerable pain in the tibia, but of comparatively

* Read before the Fifty-Eighth Annual Meeting of the Missouri State Medical Association, St. Joseph, May 10-12, 1915.

their doctor when operation for these gastric disturbances is recommended. They do not approve of operations for the cure of indigestion, as most stomach symptoms are called. They fear the knife more in gastric surgery than in the surgery of appendiceal troubles and tumors. I do not wish to be understood as approving surgical procedure for cases of mild indigestion. That would be absurd. But it seems equally absurd to treat a man or woman for a regularly recurrent ulcer pain, year after year, with the conditions steadily becoming worse, and call it a functional trouble of which medicine might give relief. There is a deep-seated reluctance, to say the least, among both medical men and the laity to make a diagnosis of gastric ulcer and resort to early operation for its cure; and this in the face of the fact that in skilled hands the operation affords a maximum relief with a minimum danger as compared with other major abdominal operations. Why this reluctance to seek surgical relief, I do not know. Its truth is undeniable. A man recently passed safely through an operation for gastro-enterostomy in my service at St. Luke's Hospital who had suffered from ulcer pain for twenty years. He had had hemorrhages several times during that period. The Mayo clinic reports that the average time of ulcer symptoms existing prior to operation, in the many hundred cases operated at St. Mary's Hospital, has been fourteen years. I am sure my cases afford a longer preoperative waiting stage, and during this time their working efficiency is lessened or lost; yet they hesitate. This is not so in the diseases mentioned earlier in the paper and should not be so in gastric ulcer.

It is one of our responsibilities then to educate the world to the desirability and economy of earlier resort to gastro-enterostomy for the symptoms of pain, vomiting, loss of weight, and hemorrhage that indicate ulcer of the stomach. Here let me say that gastric ulcer in this article is used to include the ulcers of the duodenum. The first two inches of the duodenum is stomach in its pathology.

Pain.—The pain of gastric ulcer is the pain that has a definite relation to the taking of food. It is usually caused not directly by the presence of food, although it accompanies or follows the eating of food. Neither is it caused by the acid of the stomach, although the acid, like the food, is a factor. It is caused by the digestive action of the pepsin of the gastric juice acting upon the raw surface of an open ulcer or upon the tender surface of a healed ulcer scar. Only the true gastric or duodenal epithelium can resist the digesting effects of the normal stomach contents. Raw surfaces cannot do it. Scar tissue with its flat pavement epithelial tissue cannot do it. When an ulcer has broken the

surface of the stomach membrane, the scar will be painful whenever the percentage of acid in the gastric juice becomes high. We formerly believed that the acid caused the ulcer; now we know that the acid only enables the pepsin to digest off the epithelium at this particular point. "Pepsin only works in acid solution," said Charles Mayo before the Kansas City Academy of Medicine. "It works somewhat in any percentage of acid, but best in a high percentage of hydrochloric acid acidity." The reason the pepsin acts upon the particular point where the ulcer is made is that a colony of streptococci from a bad tonsil or from a pus cavity about a tooth or from some such place where pus is harbored, has localized in some one of the minute arteries of the stomach-wall, supplying that particular part with blood and have caused a thrombus, a plugging of the lumen and have cut off the blood supply from that point, and it cannot longer defend itself against the digestive power of the gastric juice. And yet we used to find doctors giving pepsin and hydrochloric acid for gastric pain without a diagnosis of ulcer or non-ulcer.

The pain of gastric ulcer is relieved and the occurrence of deep ulceration is prevented by keeping down acidity. This means the administration of alkalies, sodium, potassium, and bismuth, and to the so-called medical treatment these are a sheet anchor. They are more than that, they are about all there is to the medical treatment. There seems to be no foundation for the pains of hyperacidity beyond this digestive action of pepsin in highly acid media. Hyperacidity pain is gastric ulcer.

The pains of ulcer must be distinguished from the crises of tabes. This is the most frequent error we see. Also it must be distinguished from the pain of gallstones, and of enforced stasis and gas production accompanying ptosis, also from crises in nephritis and pernicious anemia. Always, however, we have this to guide us. The ulcer pain has a definite relation to food, appearing one-half hour, one hour or three hours after eating. Always it has a relation to the kind of food, being worse from irritating food even in small quantities. Certain foods disagree and cause pain. Relief comes with large doses of alkalies. The pain of gall-bladder disease comes at any time without regard to food or its quantities, or its kind. A course, or as the patient says a "spell," of ulcer pain is longer than a course of gall-bladder pain. Longer, that is, in days, but each day the ulcer pain is gone a part of the time, while a gall-bladder colic is a stormy continuance until relief comes from morphin or the passing of the calculus.

It seems pedantic and stilted for me to call attention to the pains of gastric crises of tabes

dorsalis, but following is an illustration. I have in mind a woman who in the past eight years has been four times referred from the medical side of our largest Kansas City hospital to the surgical side for operation for gastric ulcer. Yet she has a two plus Wassermann, a fixed pupil, no knee-jerk, and sensory disturbance of the lower limbs, and her written history speaks of bladder irritations, of trouble with the motor functions of urination, and details the interesting fact that she is married, childless and has had a number of unprovoked miscarriages. The crises of tabes resemble ulcer occasionally, yet reasonable care will make such mistakes of rare occurrence.

Vomiting.—Most of the remarks on pain apply equally to vomiting. Its relation is most often to the food in ulcer cases and to the pain and the vomiting of gallstone, tabes, and nephritis. The vomiting of ulcer is usually from ulcer that causes obstruction at the pylorus. The vomiting of ulcer that causes no obstruction will be the vomiting of an ulcer that produces hemorrhage and will be marked by blood. When pyloric stenosis is a factor in the vomiting of an ulcer, the vomited material will be the food eaten, and will be thrown up at a time when the food should have passed on down into the intestines. Careful inspection will often show remnants of food swallowed days ago. This is quite different from the vomiting of the other conditions named, which often occur when there is nothing to be rejected by the stomach and only acid mucus or alkaline bile and mucus is found in the receptacle.

Loss of Weight.—As a rule, a patient will not come to a surgeon for pain and vomiting until he notices loss of weight. I can do no more in this connection than to call attention to this symptom. It must be weighed in all its bearings and all possible factors bearing upon its cause must be carefully considered. Loss of weight, steady, slow, relentless, must not be ignored by the doctor and will not be by the patient. It might better be called a determining factor than a pathognomonic sign. Its interpretation depends upon the accompanying conditions. In ulcer it is from starvation, not from toxemia.

Hemorrhage.—This is the most difficult factor to write about in the whole symptom-complex. We should remember that not every hemorrhage means gastric ulcer; that no case of first hemorrhage calls for operation; that operation for hemorrhage while in progress, however plausible and proper on paper, is really seldom to be undertaken; in short, that a hemorrhage requires that the doctor keep his head, that he study his case hard and quickly, and that he avail himself of the best medical and surgical consultation at the earliest possible moment, and that he use all

possible skill in his efforts to bring his patient to a successful ending of the bleeding. Operation is best done in the interval. Only a most dire condition of hemorrhage will drive the operator to face the conditions of obscure field, uncertain location, blood-obstructed view, with loss of strength and shock, and often an approaching dissolution—conditions that must be counted upon in gastrotomy for a severe gastric hemorrhage. Usually it is better to await a subsidence, temporarily, of the bleeding under morphin, rest, ice and medically administered styptics. At the first hemorrhage I do not operate; as a rule it is a procedure to be undertaken later, at the surgeon's discretion. Gastro-enterostomy is the operation for chronic ulcer. So is excision of the ulcer; so generally is the ligation or unfolding of the ulcer field. They belong to the treatment of chronic ulcer.

Technic.—There are two faults which may be observed in the usual course of a gastro-enterostomy in our western hospitals. The first is a failure to clean up after completing the inner line of suture. At this stage in the operation all exposed gauze pads should be changed for clean ones, gloves should be removed from the surgeon's hands and be replaced by clean ones and all doubtful instruments should be removed from the room.

The other error occasionally seen is in the placing of the stoma or gastric opening. The placing of the stoma or opening is still a matter of discussion in some of its points. The opening must be, as much as possible, to the right of the right side of the esophagus, which corresponds to the vertical part of the lesser curvature of the stomach. This fixes it in the pyloric portion. A point is chosen at the greater curvature of the stomach and in line of the vertical portion of the lesser curvature, on the posterior wall of the stomach. The second point one and one-half inches upward, and two or three inches toward the pylorus. The proximal end of the jejunal opening is to be as near as possible to the abdominal origin of the jejunum as near as it can be and yet bring the two openings, gastric and jejunal, together without undue tension. This is a no-loop operation. The location of the openings in the jejunum and stomach is to be indicated by clamps and the clamps placed side by side. The upper or proximal end of the jejunal opening is to be fixed to that end of the stomach stoma farthest from the greater curvature and the lower or distal end is to be fixed at the greater curvature.

Moynihan places the first or upper opening higher, that is, farther from the greater curvature, and the lower directly downward or across the stomach, not passing so far to the right, and Mayo sometimes advises the lower or greater curvature end to be to the left. These

variations depend upon the conditions of the nerve supply after resecting ulcers from the lesser curvature. The stoma should be close to the pylorus and must reach the greater curvature, that is, the most dependent part of the stomach.

After-Care.—If I may be allowed an Irish bull, I would say the after-care must begin a week before the operation. The teeth, mouth and stomach must be made sterile, and food, dishes, and drink must be sterile. After operation the same conditions must pertain for a few days.

The patient must be kept in the sitting posture. When excessive tire and weariness threatens the collapse of the patient he may lie down for two or three hours and then return to the sitting posture again.

The essentials are a sterile mouth, and throat, a sterile stomach, careful suturing, a stoma low down and to the right or pyloric end of the stomach, and a sitting posture during recovery.

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DISCUSSION

DR. WILLARD BARTLETT, St. Louis: I regret very much that the medical man is not here, because this is a subject which is not altogether one sided, but I believe that if he had preceded me you would have found that we agreed on certain views. One week ago I did my one hundredth operation for ulcer and shall confine my few remarks to deductions made from practical study, as not the reviewing of the theory, but experience, is the best teacher. I shall divide the remarks that I have to make into two general classes, the first being devoted to surgical indications and the second to technic.

As to indications, why do we operate in the presence of ulcer? As Dr. Pearse hinted, although I think it might be emphasized a little more than he did, we do not operate for ulcer at all; we never operate for an ulcer. We do not always know what caused an ulcer, nor does any surgical operation cure the condition *per se*, an ulcer always being a secondary condition. We operate, then, for certain distinct, clean-cut complications of ulcer. Of these, obstruction is the one for which we most commonly operate. Perforation is a complication which demands practically always immediate operation if the patient's life is to be saved; always if it is a perforation into the free peritoneal cavity. We operate also for small, repeated hemorrhages which gradually deplete the patient, for cancer on ulcer basis, if it can be diagnosed early enough and for medical failure to cure ulcer. I say "medical failure" without meaning any criticism, because by the very nature of the facts in the case many medical treatments are bound to fail, but not nearly all. As an operating surgeon, I do not believe more than two fifths of all ulcers are ever surgical; three fifths, I believe, are benefited greatly if not absolutely cured by such means as used by Sippy and other men who are specialists in this sort of thing.

Now the technic: Where some surgical operation is deemed necessary by men like Sippy who are competent to judge, there are five forms of operation applicable according to the case. Certain operators resect the ulcer-bearing area. Certain others, where resection is perhaps deemed advisable but the patient

is not in condition to stand it, resort to blocking the stomach at some point so that food can never go over the ulcer area again, and a drainage operation is done. That is known as exclusion. We have then, two, resection and exclusion. I have done exclusion twenty-seven times out of these 100 operations. Then there is excision of the ulcer, which is done for reasons that would carry me too far afield, and is not infrequently a very satisfactory operation. I might put in as fourth some form of pyloroplasty which is very seldom used. Gastro-enterostomy is by far the most frequently used and the most useful of the operations for this condition and while anybody here can do a gastro-enterostomy, it makes some requirements on the surgeon to produce a gastro-enterostomy which will really functionate, which will continue to functionate and will not give trouble so serious that the patient by the gastro-enterostomy is put from the frying pan into the fire.

I am going to tell you how I have done my last gastro-enterostomies. I have some drawings here to illustrate the operation, which I will show you and then pass around. Dr. Pearse has told you about the posterior operation, advised by Will Mayo, where the descending limb is run downward and to the left. There is no further dispute on that. To facilitate the operation, after the slit is made in the gastrocolic ligament, a clamp is placed on either side and the longitudinal slit spread, and then a marking clamp is put above and pulled up, making a triangle. I use a broad aluminum clamp. This clamp has the advantage of keeping the intestines and packs from rolling up in the way and at the same time prevents blood and contents from running down into the field. Those who have used it think it has a considerable advantage over the commonly used narrow-bladed clamps. The first, or peritoneal, row of sutures are interrupted stitches, never continuous, because, as Dr. Pearse has told you, any stitch, either the internal row of catgut or the outer row of silk, has a tendency to wander from the original position, no matter where you put it. If one of these interrupted stitches wanders into the stomach it does not matter; it goes in and comes out; but if one of a string, a part of a continuous suture gets in, it hangs there, the tissues it touches become infected along the track, secondary ulcer is often formed, and trouble is likely to be experienced by the patient as much as if he had had no gastro-enterostomy. To get a silk suture which is very nice for the purpose I have had needles swedged onto the end of the silk. The sizes run from single 0 to quadruple 0 silk, used according to the size of the patient, according to the thickness of the viscera and according to the degree of refinement of the surgeon's hand on the day he uses it; and you know we do not always have that refinement, and when we do not we use a larger size. I might say that stitches in the second row are attached to a clamp and left and that clamp will match the other one. The second row of catgut is placed in the same way as we have always placed it, with the single exception that I have catgut drawn over two needles swedged on it, one on either end swedged on for the reason that a piece of catgut threaded through the eye of a needle is always hard to put through the tissues and lacerates them; furthermore, catgut is very hard to thread on a needle. An inch and a half of the thread is run through and tied at the middle of the posterior lips of the wound so that as we sew we proceed in both directions from the middle, using, of course, one needle in each direction, and go clear around to the middle of the front, where the two resulting ends are tied together. That relieves us of the difficulty which is experienced in closing the second corner after a man has commenced at the other corner.

TREATMENT OF IRREDUCIBLE JOINT FRACTURES

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Occasionally a fracture dislocation is encountered that renders reduction and retention of the fragments impossible except by open method. This is especially prone to occur in the elbow and shoulder joints. More rarely separation of the epiphysis or fracture with rotation of the fragments into the joint takes place.

For the past two years I have been treating these cases by open reduction and the retention of the fragments in position by one or two nails. The results have been entirely satisfactory with remarkable restoration of function.

For the elbow, a curved skin incision is made extending around the inner condyle in order that there should be no restriction of motion from contraction of scar tissue.

The muscles are separated in the middle line posteriorly just above the fracture. The fragments may be easily replaced with a strong, blunt hook aided by the use of bone forceps. By flexing the elbow to a right angle one or two long wire nails may be driven on either side of the olecranon, through the fragment into the shaft of the humerus. This holds the bones most firmly in apposition; much more securely than by any other method.

The Lane plate is not satisfactory in these cases as necrosis is most prone to occur because of the fact that very rarely can a level surface be found for its even application, and the screws are apt to loosen in the soft, spongy fragments about the joint. An excess of callus also at times takes place.

Bone pegs, transplants or inlays are not suitable for such cases for when introduced into the soft, spongy bone they are never firm or secure and the loose fragments may become displaced. This condition existed in one of the cases sent to the Murphy Clinic for a second operation. A single, well-placed nail did what the more elaborate bone graft failed to do. Bony union takes place in 5 or 6 weeks at which time the nails may be withdrawn. In the adult this is not absolutely necessary but it is most advisable in children where the presence of a foreign body might interfere with the growing end of the bone.

In the shoulder the chief difficulty, as I have found it, is in reduction of the head of the bone. A strong hook has proven most serviceable however. The fracture usually occurs at the surgical neck and is more or less oblique. This allows one or two nails to be driven in at an angle to the shaft and as the humeral head extends laterally toward the articulation, there

is no difficulty in firmly fixing it in position with a long nail.

A straight incision is made through the deltoid just external to the biceps tendon. Special care is exercised not to injure this muscle unnecessarily. As soon as the skin is incised



Fig. 1.—Supracondylar separation of epiphysis with rotation into elbow joint.



Fig. 2.—Same case (Fig. 1). Reduced and epiphysis held in position by a single wire nail.

sterile gauze or towels are sewed to the edge of the wound to prevent skin contamination of the deeper structures. The gloved fingers are not inserted into the wound and nothing comes in contact with it that has been handled except with instruments—sutures or ligatures are rarely necessary.



Fig. 3.—Fracture lower end of humerus. Fragments reduced and held by wire nails.

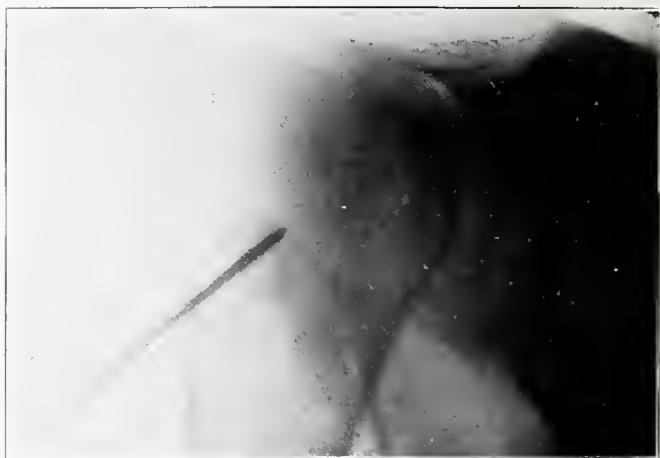


Fig. 6.—Oblique fracture surgical neck of humerus held by wire nail.



Fig. 4.—Shows complete restoration of function in case shown in figures 1 and 2.



Fig. 5.—Shows complete restoration of function in case shown in figures 1 and 2.

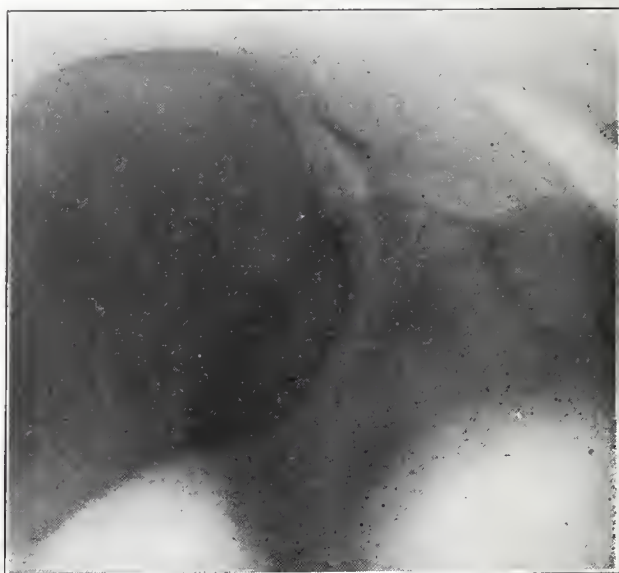


Fig. 7.—Final result in case shown in figure 6 after removal of nail.

The following brief records of several cases with Roentgen-ray photographs will serve as illustrations:

J. A. M., age 10 years, referred by Dr. Fred Kyger, May 20, 1914. Compound fracture of lower end of left humerus, separation of epiphysis and rotation of fragments into the joint. Dislocation could not be reduced. On the sixth day after the injury, small wound had healed and open reduction was effected by aid of a strong hook. One wire nail was driven through the external condyle while the elbow was flexed. This held the fragment firmly in apposition. Nail was removed under novocain, September 2, 1914. Three months later complete function had been restored.

W. H., age 8 years, General Hospital, May 22, 1915. Fell from a ladder receiving a supracondyloid fracture of humerus with dislocation of fragments into the joint. Seven days after his injury ether was given and open reduction of fracture effected. Skin incision on dorsum of the arm around inner condyle. Fracture reduced with strong hooks and bone skid. Joint not opened. With elbow flexed to a right angle two wire nails were driven through the replaced fragment into the shaft of the humerus. This held bones most firmly together. Plaster cast applied. Skin sutures removed on twelfth day. Nails removed in five and one-half weeks. Result, good return of function which is rapidly improving.



Fig. 8.—Fracture surgical neck of humerus with anterior displacement of upper fragment.

W. B., aged 15 years, May 19, 1915. Referred by Dr. Frankenberger. As the result of a fall from ladder suffered fracture surgical neck of humerus with subcoracoid dislocation of the head. The dislocation was reduced but the fragments could not be brought together. Seven days after the accident ether was given and an incision made from acromion process down the arm just external to bicipital tendon. Fragments replaced with forceps and "bone skid" and held in position by two wire nails. One was introduced

from below and one from above in an oblique manner. They held the bones firmly in position. The arm was rotated before the wound was closed, effectively demonstrating the complete immobilization of the head with the shaft. No sutures or ligatures were used. Primary union resulted. Nails have not yet been removed.



Fig. 9.—Same case (Fig. 8) held by two wire nails driven in obliquely.

J. O. C., age 42 years, laborer, General Hospital. As a result of a fall on the shoulder suffered an oblique fracture of surgical neck of right humerus. Accurate reduction of fragments was impossible. One week after the injury reduction was effected by open operation. Incision from acromion five inches long external to biceps tendon. After head was replaced the arm was extended and a nail driven obliquely through lower fragment into upper. This single nail held bones perfectly. Primary union. Nail removed under local anesthesia at end of six weeks. Patient had complete restoration of function.

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DEVIATIONS OF THE SEPTUM

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The subject selected is one that might well invite the conclusion on your part that I have some new operation to present, or at least a new instrument to exhibit. I am obliged to say, however, that I have been actuated by no such worthy motive. On the contrary I belong to that small and obscure section of nose and throat men whose surgical means are limited to the use of instruments and methods that have been invented and devised by his colleagues and predecessors. However, the handicap is not as great as it at first appears for the instruments produced by the rhinologists of the pres-

ent day exemplify in the highest degree that inventive genius for which the American mind has become famous.

For the purpose of presenting some points, about which a wide difference of opinion exists, in the hopes that some of them at least may be cleared up by a liberal discussion, this subject was selected.

We are assured by no less an authority than Zuckerkandl that deviations of the septum are rare before the seventh year. According to Schech they originate most frequently between the ages of 14 and 20. That the condition is an extremely common one is evident; probably no deformity is more so. Mackenzie, Theile, Semeleder and Harrison Allen examined 2,276 skulls and found conspicuous deviation in 75 per cent. So high a per cent. of deformity in the bony septa alone, to which may be added the even more common cartilaginous deviations, point out the fact that any septum that has grown up in the straight and narrow way is so rare that its very existence has been questioned. Traumatism is a common cause; how common is most difficult to determine. Falls and bumps are of such frequent occurrence in childhood and youth that that nose which escapes must be small indeed. It is probably true, however, that traumatism is not a necessary factor in all cases. The position of the septum fixed as it is between the unyielding frontal, ethmoid and sphenoid bones above and the superior maxillary and palate bones below has no chance whatever to adapt itself to pathological conditions. If it grows more rapidly than its surroundings it must bend either one way or the other or both, creating a right, left or sigmoid curvature, the latter of which may be in either a vertical, horizontal or oblique plane. A high arch of the palate shortens the distance between the points of attachment of the septum and tends to cause a deviation. For this reason any cause predisposing to a high arching of the palate, such as nasal obstruction occurring in children, can readily result in septal deviation. This is especially true of adenoids. The rarefying of the air in the obstructed nostril is also given as a cause. As nasal obstruction is a potent cause of septum deviations, so in turn the deviation adds to the obstruction of the nostril receiving it, either right or left, and in case the deflection is sigmoid in shape, to both. At first thought one might think that the encroachment upon the one nostril would but add to the capacity of the other. This is not the case, however, for the reason that the turbinates on the side of the concavity undergo a compensatory hypertrophy.

Effects of Septal Deviations.—With deflections of the septum occurring so frequently that they form the rule rather than the exception, the question at once becomes pertinent, what

injurious effects may we expect from this deformity? Obviously the great majority of the deflections which find their way into statistics produce no symptoms whatsoever and are purely of an anatomic interest. On the other hand deflections of such a degree as to produce decidedly pathologic results occur with far greater frequency than is generally supposed. Any deviation that produces a stenosis of either or both nostrils is certain sooner or later to become an etiological factor in the production of a number of disorders among which might be mentioned the acute and chronic inflammations of the nose and accessory sinuses, of the middle ear, pharynx and larynx, and mouth breathing with the evils incident thereto. That the deviated septum through contact with and pressure against the turbinates is an important factor in many cases of hay fever, is no longer open to question. Any septal deformity which interferes with the free circulation of air through the nostrils or that hinders the normal drainage within the nose will sooner or later be productive of evil consequences. Deviations that produce firm contact with the opposite turbinates are also a menace to the health and comfort of the individual. This brings us to a consideration of the practical phase of the subject, viz., what shall constitute an indication for operative interference in deflections of the septum? In cases of certain affections of the middle ear in which the use of the eustachian catheter is an essential part of the treatment, any bend in the septum that interferes with the introduction of the catheter should be rectified by operation; as a preliminary to operations on the accessory sinuses the correction of a badly deformed septum may be necessary; as a preliminary to operations on the pituitary body; where the septal bend impinges on the middle turbinate in such a manner as to interfere with the ventilation and drainage of the accessory sinuses; where the deformity interferes with the normal respiration and drainage through the nose; in cases of hay fever in which are located hypersensitive areas of contact between the convexity of the septum and the adjacent turbinate; where the pressure of the septum against the nasal wall produces pain or headache. A deflected septum that is not in the way and not causing any trouble should obviously be let alone.

The different operations that have been performed in the past for this deformity would fill a good sized book and the instruments used are legion. They have a historic interest, I will mention a few of them: Digital pressure; the use of gauze and ivory plugs and tents, splints, bougies and tubes. Removal of the bulge by means of the knife, chisel, saw, scissors, drill, files, needle and snare, punch, trephine, pins, forceps, galvano-cautery, electrolysis and caustics.

The operations which found most favor were that of Adams, in which he fractured the septum, forced it into position and applied a splint; Steele's, in which he used a stellate punch, after which he pushed over the weakened septum and held it in place by means of plugs; Asch's, in which he used a pair of button-hole scissors in place of the punch; and Gleason's operation in which he made a horseshoe incision and pushed the flap through the opening.

There were a number of other methods all of which proved unsatisfactory to the operator and doubly so to the patient. The advent of the Freer submucous resection rendered obsolete most of the operations that were in vogue up to that time, and this method or some modification of it, is easily the favorite at present. Some operators are so partial to the Asch operation that they combine it with the submucous resection. I should be afraid to use the Asch forceps for fear of injury to the mucosa with possible sloughing and perforation. Chassaignac in 1875 practiced an incision and reflection of the mucosa and perichondrium which were pushed aside and the cartilage removed. It seems strange that this operation, incorporating the desirable features of Freer's, should have fallen into disuse and have been superseded by some of the more crude methods previously enumerated.

The older operations were so futile in their results that in only the worst cases was the septum attacked. In all others the surgeon preferred to get around it by removing the neighboring turbinate. Undoubtedly the pendulum has now swung too far in the other direction and many an inoffensive septum is attacked because it does not conform to the anatomic ideals of the operator. The submucous operation, while ideal in results, was more or less difficult of execution and withal rather tedious. As a result the nose and throat men all over the country labored long and earnestly inventing new instruments for the several different steps of the operation until we now have an armamentarium from which the most exacting should have no difficulty in making a selection. Septal chisels, angular knives, spuds, elevators, swivel knives, dissectors, plugs and forceps were born in rapid succession. In the experience of the writer the more operations performed the fewer instruments are found to be necessary. It sounds like a very simple matter to incise the mucosa and perichondrium, free them from the bone and cartilage and remove as much of these structures as is indicated in the individual case. The only difficulty encountered is in preserving the flaps intact. Every new instrument has as its purpose the performance of some step in the operation with less danger to the flaps.

In the Freer operation a vertical and horizontal incision, meeting at a right angle and creating a triangular flap, is made. This does not appear to have any advantage over the vertical linear incision which may be slightly curved to advantage, and which damages the flap to a less extent and is less liable to cause sloughing or perforation. The separation of the flap on the convex surface is usually easy except in cases of angular deviations in which in passing around the turn of the angle great care is required to prevent buttonholing the flap. Another step in the operation which gives some trouble is the first incision through the cartilage. It is here extremely easy to go clear through the mucosa of the opposite side. To prevent this some operators inject a solution underneath the perichondrium of the concave side as a preliminary step. This sounds ingenious and it would be ideal were it not for the difficulty often experienced in inserting the point of the needle between the perichondrium and the cartilage. The use of a sharp curet instead of a knife in cutting through the cartilage has been recommended. A free incision with the knife held obliquely so that the point comes through the cartilage on a slant instead of at right angles is an effective way of avoiding perforation. Elevating the flap is quite easy if you have started right but the mistake is sometimes made of attempting the separation before cutting completely through to the cartilage. This gets the operator into difficulties at the start and is liable to badly mutilate the flap. The flaps being separated the next step is the removal of the cartilage or bone or both according to the location and extent of the deviation. The swivel knife is a favorite instrument for this part of the operation but has the disadvantage of taking up more room than the smaller chisel. I used the Freer straight, square-pointed chisel for cutting loose the base of the cartilage but found I was prone to push the corners through the flaps. I then ground off these corners and discovered that I had improved the instrument greatly. For making the vertical incision through the cartilage a small right angle knife is required. These knives are usually made with a sharp point making it difficult to sever the cartilage without cutting the flap as well. This can be obviated and the instrument improved by grinding off the point as in the case of the chisel. It is customary to remove the cartilaginous deviations all in one piece. This makes a nice looking specimen but in many cases it is easier to remove it in successive vertical strips. This is especially true where the deviation is an angular one. Where bone as well as cartilage must be removed, it is better to remove the bone in small pieces by means of a bone-biting forceps; the chisel is also

useful for this purpose. After removal of all the tissue necessary the wound is sponged dry, the flaps are carefully straightened out and may be kept in apposition by lightly packing the nostril with cotton or gauze. This is also supposed to prevent hemorrhage and the formation of a hematoma between the flaps with consequent infection and sloughing. The packing is usually treated with oil or ointment before insertion to facilitate its ready removal without tearing the flap.

A strip of rubber tissue laid next the mucosa before the packing is introduced facilitates its removal with less danger of bleeding or damage to the flaps. I had always made use of packing until I had the experience of having a patient return for treatment with the information that he blew out the plug on his way home from my office. This case did so well that I have discarded the use of packing and I think the healing is more rapid and the patient more comfortable without it. I have never seen an alarming hemorrhage from the operation and hematoma is extremely rare whether packing is left in or out and when occurring does no harm. Infection and sloughing from hematoma are often feared but the fear is seldom realized. Faulty packing may cause a turning in of the edges of the flaps. Several operators have reported pushing pieces of packing through buttonholes in the flap and it is quite possible that this accident may have happened in cases that never were reported. It is not at all an uncommon occurrence for the patient to hawk pieces of packing back into the pharynx. A method of packing, credited to Dr. Casselberry, consists of first introducing a finger-cot and packing the gauze inside it. In place of gauze packing some operators use the Bernay's splints. These have most of the objections credited to the gauze and unless removed with care hemorrhage or tearing of the flap may result. I have used these splints a number of times but have discarded them. Like the gauze they interfere with breathing, keep the discharges in contact with the wound and prevent its drying. Infection is less liable to occur when no splints or packing are used. In the writer's experience a far better and more surgical method of holding the flaps in position is by means of interrupted silk sutures placed far enough apart to permit drainage. Black silk is more easily located and removed than white, a full curved needle one-half the size of a small-eye needle is readily introduced. There is a great variation in the thickness of the mucosa and perichondrium in different individuals. In some the flap is thick and strong and easily manipulated; in others it is almost as thin as tissue paper and great care is needful to prevent tearing and sloughing, a

most annoying complication when it occurs. Another complication that happened in my first two operations is perforation of the septum. This may be due to previous ulceration of, or operation on, the septum, or to faulty technique or clumsiness on the part of the operator. When occurring, an attempt should later be made to close the aperture. This may be done by dissecting up a flap and drawing it over the opening after first freshening the edges. But little after treatment is required; packing when used should be removed early. Its purpose will be accomplished in 6 hours but it is usually left in 24, this being a more convenient time for its removal. The wound should be kept as dry as possible. Insufflation of a powder of aristol and boracic acid at each after treatment is preferable to the use of sprays, douches or emollients. The patients should be cautioned to avoid blowing the nose during the 24 or 48 hours following operation. They should also be instructed to lie down and keep quiet for at least 12 hours. I have found the amount of hemorrhage greatly reduced by this precaution. When operation is done in a hospital this is of course unnecessary. The hospital is the ideal place provided you can have the proper equipment and illumination. Unfortunately many patients object to the confinement and extra expense incident to hospital care and therefore I have been compelled to do most of these cases at the office.

Operation is performed under local anesthesia and epinephrin is used to control hemorrhage. I formerly used 20 per cent. cocain, then changed to 10 per cent. and am now using 5 per cent. which is quite strong enough to render the operation painless. I like to mix the cocain with the epinephrin solution although many prefer to apply the cocain first and follow with the epinephrin, allowing 10 minutes for each, and using 10 per cent. cocain. A feeling of faintness following the use of cocain is by no means rare. It usually occurs either before the operation is commenced or shortly after. I do not believe the cocain is entitled to the blame it usually receives. It is a factor no doubt but so also are fear and nervousness. Patients often grow faint before the cocain is applied. When it occurs the patient should be placed in the recumbent position until completely revived. Amyl nitrite serves as a good restorative if any is needed. As a preventative a hearty meal immediately preceding operation or a cup or two of strong coffee have been advocated. A dose of morphin one-half hour before operation is a routine procedure with some. When a patient is addicted to the use of tobacco I urge him to smoke during the operation. It gives him something to take up his attention. The

position of the patient is largely a matter of choice. The recumbent position is best for the patient as faintness is much less likely to occur. The erect position is easier for the operator. Like many other operators I compromise on a semi-recumbent posture.

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SOME ASPECTS OF THE RELATION OF MEDICINE TO LAW*

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In considering the relation of the medical profession to the profession of law, I wish at the outset to call attention to some features which they hold in common, not often considered in an assembly of this kind, and in doing so assume the risk of traveling outside the field you may suppose allotted to me in this address. In addition to the incidents where the two professions come in direct contact, as for instance in the delivery of expert testimony in the trial of a law case, there are certain aspects which present similarity of experience and incident to those practicing them. There are certain ethical principles, whether formulated in a definite code or only tacitly recognized, which must govern the practitioners in both professions. It is these ethical principles and their observance, or nonobservance, together with the opinions of laymen in regard to them, which furnish to members of both professions similar experiences, similar burdens and responsibilities, similar suffering from the injustice and misunderstanding of the lay world, similar reasons for receiving philosophically and in good humor the flings and buffets of the indiscriminating and unappreciative critics, similar reason for keeping as far as possible our membership clean by purging it of undesirables and quacks, similar satisfaction in the knowledge that we frequently, if not constantly, do a real public service, which is sometimes appreciated at its full value, but just as often condemned as valueless and even vicious, by the uninformed and misjudging public.

It is a singular fact that lawyers and doctors are criticized with a severity and an unreasonableness which is not visited on other professions. This I am sure is not because we are more fallible or less conscientious than members of other professions, but because of the delicate subjects with which we have to deal. Lawyers and doctors are constantly charged

with ignorance of their sciences or criminal disregard of their duties or both, charges seldom brought unjustly against members of other professions. A civil engineer, for instance, has to do with physical laws and mechanical constructions which do not directly touch any one's sensitive nerves. Nobody criticizes him unless his bridge falls down. A doctor has to soothe the individual pains, real and imaginary, and assuage the individual despair of his patients. The lawyer has put up to him the problem of saving his client from financial ruin or humiliation of public defeat. Both work on the raw and bleeding edges of exposed nerves. If anything goes wrong the knocking begins, and it often is deemed to go wrong unless impossible results are achieved. Doctors as well as lawyers are frequently asked to perform miracles. It is a common experience for a doctor to be asked and expected to cure an incurable, and it is an equally common experience for a lawyer to be asked and expected to save from business death a client who is already drawing his last expiring financial gasp. If one refuses to undertake the miracle in such a case and tells the client or the patient the truth about his case, he goes away angry and sets out to find, and does find, a miracle worker in the profession, who will undertake to turn the trick. The miracle worker is always to be found, indeed he is so well advertised that he is easier found than the modest practitioner, and when he is found he practices his art on the confiding patient—his art—the art in which he really excels all others and does indeed seem to perform miracles—the art of separating the fool from his money.

It is not merely the ignorant and inexperienced who expect and demand omniscience and infallibility of doctors and lawyers, but people of intelligence and standing often charge them with ignorance because they are not omniscient, and with criminal neglect because they are not infallible. It is not an infrequent remark that doctors don't know much about the human constitution, and that lawyers don't know the law. Illustrative of this: A year or two ago there appeared in several magazines series of articles, well written and giving circumstantial details, which labored to show that lawyers generally are wholly ignorant of what the law is, that as a class they have so schemed and contrived to make the law so intricate, complex and puzzling that neither the practitioners who invoke its aid nor the judges who are required to apply it in the solution of cases really know anything about it, whereas it ought to be so simple that any citizen can understand it. In like manner when a medical society or physicians individually show their disapproval of some new-born fad in medicine or some much-exploited dis-

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covery in practice, there are those who immediately visit condemnation on the whole medical profession by saying the doctors are opposed to any improved methods or simplified knowledge because it would injure their business; that their learning, like that of the lawyers, is involved in the mazes of technical terms which nobody understands, that they don't know how to cure afflicted people and combine to antagonize those who do. I am sure I am not exaggerating criticisms which are heard every day, made by those who make the vending of "patent medicines" profitable.

It would be sufficient answer to such criticisms to say, so far as the lawyers are concerned, they make their money by the ready and rapid dispatch of their cases, and not by involving them in long and complicated trials, and, so far as the doctors are concerned, that they are the leaders in scientific discovery and the first to welcome any new method which promises to help assuage the ills they meet in their every-day work.

But there is another answer to this charge of ignorance, so easy and so complete that it is a wonder it never occurred to the critics themselves. The law is not intricate or difficult to understand in its general principles. On the contrary, it is fairly simple and the average lawyer knows the law. The complicated, puzzling questions which come before the courts are not due to the difficulty or the intricacy of the law. They arise from the complex and intricate business transactions in which men engage. Sometimes men carry on their business with such complicated system and make contracts with such utter disregard of legal principles, with such bewildering contempt for business regularity and common sense, that disagreements are necessarily invited. And when these disagreements get into court, a serious attempt to disentangle the snarl is enough to whiten the hair of the practitioner. Such things not only cause able and learned lawyers to disagree about a matter which ought to be simple and easy of solution, but fill the law books with the fine distinctions and complicated reasonings which incur the reproach of the lay world. In like manner the average physician knows medicine and the usual effects to be expected from its use; he knows the usual behavior of the human constitution when afflicted by specific diseases and when treated by specific remedies. But you frequently have cases which defy diagnosis, in which the patients show symptoms indicating one complaint while really afflicted with another, cases which respond to no treatment in the manner laid down in the books. You are charged with incapacity, whereas, it is not your ignorance of physic or of the physical man which makes the trouble, but the particular case is beyond exper-

ience and beyond the application of known rules. Besides all such troubles arising in honest cases, the patient sometimes has a fertile, resourceful imagination and a cogent method of exposition, such as enables him to place before you, convincingly, a series of symptoms which will have you doctoring him for something he never was afflicted with and could not be afflicted with.

When lawyers are charged with selling out their clients and doctors are accused of prolonging the suffering of their patients, in order to increase their fees, there is a complete answer to that which does not occur to the ordinary observer. There are, of course, many lawyers and some doctors who are not troubled with consciences which are too sensitive. I do not mean now quacks and pretenders, but men of ability, of professional experience and learning. These two professions doubtless have a proportion of knaves of greater or less degree, as large as other callings have, but probably not larger. Yet it is the rarest thing in our experience to find a regular member of either profession unfaithful to the best interests of his patient or his client no matter how morally oblique he may be in other respects. It is because the physician and the lawyer in regular practice acquires what I may call a professional consciousness, that is a sense of professional vitality which is as controlling as his sense of physical vitality, an instinct of self-preservation applied to his professional character, the same as that which protects him from physical harm. I do not mean that a lawyer or physician of weak moral sense is held to his duty by a mere jealousy of his professional reputation, but something additional, something much more potent as an influence. I have called it a professional consciousness because I can think of no apter term. It is a habit of thought and feeling which makes the professional man instinctively do his best at all times and under all conditions because he must preserve his professional sense of fitness, he must protect his professional integrity and well-being just as he protects by instinct his person from injury. He as zealously cares for his professional health as he does for his physical health. It is this professional consciousness which holds him to his best efforts, which enables him to practice with effect and success. If he loses it he generally drops out of the regular practice and enters the ranks of frauds and pretenders; if a doctor, he advertises a "patent medicine," if a lawyer, he becomes a promotor of bogus corporations or a dealer in worthless mining stocks.

A more serious charge is brought against members of both professions than the mere unfaithfulness to a specific duty. We are some-

times charged with gross violation of our duties to the public, a charge which I will notice a little further on.

Where the two professions came in immediate contact is the opportunity for observing the greatest weakness in them both. The practice of law never shows to worse advantage than where hypothetical questions are propounded to alienists in the endeavor to prove the sanity or insanity of some one under investigation. Doctors are never so likely to be discredited as when answering those same questions.

It was the late Dr. J. E. Tefft who made the famous classification of liars. Some of you may have heard about it. This story comes from one who testified as an expert as often at least as any one here and ought to have known what he was talking about. He said liars are divided into three general classes, each succeeding one being more infamous than the one preceding, as follows: First, liars; second, damned liars; third, expert witnesses. If this story did not come from a physician of eminence I would not repeat it in this presence nor would I repeat it if I were not prepared to refute the implication contained in it. I wish to defend the much-belabored expert.

Without considering other kinds of experts, consider the field which must be covered by physicians, the variety of problems in the solution of which their aid is required. You are called on to say whether a certain wound would produce death; whether under certain described conditions a death was caused by gunshot wounds or by asphyxiation; what is the probable result of a physical injury as affected by the age, sex, condition of health and habits of the person injured; what probable effects on certain organs of the body would follow the administration of specific drugs as affected by age, sex and condition of health; what influence heredity, habitual drunkenness, overwork, domestic troubles, business losses, temperament, personal habits, education, environment and other conditions, internal and external, might have as affecting the sanity or insanity of a subject, the probable duration of physical disability, the capacity of a man to perform labor, the liability of a subject to commit a crime, the susceptibility of a man or woman to the ravages of some disease, and other results without number.

You are asked to say whether an infant in a certain condition of lungs and blood was murdered or was still-born, whether certain pathologic conditions in a woman show she has been delivered of a child, whether a man or boy of given age and condition of health is physically capable of committing a certain crime, whether certain physical injury is likely to be permanent or temporary. I remember a case of my own in which I learned from evi-

dence taken that a medical society in this vicinity was confronted with the question whether a cystic tumor which an eminent physician took from a young girl was not in fact a retained afterbirth.

There is in fact no limit to the variety of problems which physicians are called upon to solve. In many, very many cases which get into court the physical or mental condition, or capacity of some individual comes into question and in all of them there is a possible demand for the advice of a medical expert. The responsibility which therefore rests upon them is not realized in its full degree perhaps by the physicians themselves.

When a physician is called to the witness stand to furnish evidence in his character as a physician he is not in the same class with ordinary witnesses; he is on a different plane and assumes a different rôle. Ordinary witnesses are limited to the bare facts within their knowledge. They are not allowed to reinforce the results of their observation by inferences, deductions or opinions. They must not reason or conjecture. They must say only what they know, giving the facts unembellished.

On the other hand, when the expert physician is called he is usually not asked for facts. The facts are laid before him and he is invited to give his opinion of them. He is invited into a field where other witnesses are forbidden and is requested to furnish inferences, deductions, conclusions, judgments. He is deliberately required to assume the dignity, the importance and the function of the judge and jury by pronouncing judgment upon the case. True, the jury is not obliged to adopt his judgment, but it is obliged to receive and consider it as such.

The expert witness alone has the privilege of exercising his reason and in doing so he may often exercise his imagination. When he begins to reason and draw deductions and conclusions he retains the characteristics of a human man in his sympathies and his prejudices. He pronounces judgment, not as an unbiased judge determining the rights of the parties but as a partisan of the side for which he is subpoenaed. From the facts presented he reaches the conclusion he is expected and desired to reach by the party who subpoenas him. Who can say when called upon to give an opinion as an expert that he is so strong, so cold-blooded in fact, that he is not influenced in the slightest degree by the fact that he is summoned on one side and not on the other? I have no doubt that many think they are not so influenced, but that is where the lawyer comes in to share the guilt, if it is guilt, and helps to discredit expert testimony. Often he does not want an unbiased, scientific elucidation of the subject by the expert. On the contrary, he hunts for the expert who will give the opinion

which fits his side of the case; an expert who already has the bias, the preconceived judgment. The public is not often informed what fees are paid to eminent specialists by parties litigant for their testimony, but the public does know that those same eminent specialists will answer the same hypothetical question in exactly contradictory ways, according to the side they are called to support. For instance, when a hypothesis containing a question of 15,000 words, requiring two hours to read, and reciting the detailed history of the person whose sanity is under consideration—when this question is submitted to two alienists of ability and reputation, who have received their instruction from the same school, who have been informed by study of the same authorities, who in short have the same theories, equipment and experience, they answer the question as to whether the subject under investigation is sane or insane, and one will say *yes*, the other will say *no*. Then the public raises a howl and charges with some show of reason that these alienists testify as they are paid to testify and their opinions are worthless, so that a jury is right in disregarding them. Hence, the disrepute of experts and hence the classification of liars as given by Dr. Tefft.

Now I desire to defend the medical profession against this charge of deliberate corruption. I think the majority who differ in the way indicated are perfectly honest in their difference. In the first place an expert witness is not required to give an unbiased judgment in a matter. In a majority of cases where he is called to testify for one side or the other he is frankly in favor of that side beforehand and is more or less an advocate just as the lawyer is. He would be placed in a better light and appear more honest if he would always frankly say so, just as the lawyer is obliged to do. Remember, he is not called on for facts. If he should be, as it sometimes happens of course, he should give them honestly and exactly. But he is required to furnish opinions and deductions. He presents reasons, and to reason is to advocate a proposition. He lays before the jury the reasons why his side is correct and why the other side is incorrect. The jury should understand that that is what he is doing. His deductions are offset by the deductions on the other side, and it is for the jury to say whether he reasons correctly.

The critics say, of course, that the expert should rise above the influence of partisan bias, should state the reasons and deductions which his science demands, and state them as impartially as he does the facts when asked to state facts. No matter how vehemently you may say he ought to do it, the fact remains that he does not do it, and cannot do it, because of the very limitations of human nature.

Absolute neutrality is the hardest state of mind in the world to achieve, as we all know from present public experience. In a law suit, there is no such thing as neutrality by those engaged in it. The expert is sent for, not because he is neutral, but because he has an opinion. Even the judge and the jury cease to be neutral finally; otherwise, they could never decide the case. The case must be decided, however difficult, however intricate; it must be decided and jurors must take one side or the other. The witness must, in the nature of the case, testify for one side or for the other. This he does with perfect honesty and sincerity, and experts differ as other people differ. Remember, it is not the easy case which gets into court; not those which may be decided by some simple and well-settled principle. The cases which are tried are those about which there is room for difference of opinion and experts are called where there is room for such difference. Often such difference of opinion must necessarily arise in the very nature of the case. Even the critics who vigorously condemn the partisan bias of experts take sides, but of course it is the other side from that espoused by the expert whom they criticize. The reason they object to the partisan bias of experts is because they are biased and partisan on the other side.

All that is but another way of saying that judges, juries, lawyers and doctors are human beings with human limitations. They are not omniscient or infallible; they should not pretend to be so. All men are human except the critics and they are inhuman. The man who pretends to be above and beyond the reach of partisanship, to be uninfluenced by his sympathies with one side or the other of a controversy, is either not interested in it or else he is a fraud. By reason of our common humanity we must sympathize with the woes and struggles of those who appeal to us. If we could be absolutely neutral in witnessing a struggle of any kind between our fellow creatures we would have to be divested of that most engaging human attribute, sympathy. The physician would be unfit for his noble calling; he could not practice if he did not possess a ready sympathy for distress and desire to relieve when it is presented. To possess such sympathy is to be the partisan of the person who engages it. The physician cannot divest himself of it when he goes on the witness stand and should not be expected to do so.

The law makes allowance for this human weakness. No position of trust can be held by one interested in the trust property; no judge, juror, or commissioner can sit to determine issues in which he or any of his relatives have an interest, or about which he has heard enough

to cause him to form an opinion. An expert is brought to the witness stand, not in the receptive attitude of a judge, but because he has already made up his mind; not because he is unbiased, but because he is biased; because he has a judgment, an opinion. He is not asked for facts, which of course he must give honestly, but for an opinion, which he must also give honestly and in doing so favor his side. His testimony should be taken and usually is taken by the jury for what it is worth as a partisan statement. It is of no weight unless supported by substantial reason.

We are under suspicion by the general public, and naturally so, because the public must view us from surface indications and cannot know the intimate and inside workings of our professional lives. In the very nature of the case men of one calling cannot know well the difficulties and problems which beset those of another calling.

It is for that reason we are charged with a great many crimes of which we are not guilty. And I might add, we are guilty of a great many delinquencies of which we are never accused. Among other things, we are guilty of being human, with human fallibility, human weakness, human instincts and human inclination to follow the line of least resistance.

To hear some of the strictures upon our professional conduct you would suppose that doctors as well as lawyers are divided into two general classes, good and bad. All are either honest or dishonest, and completely so, and that is all there is to it.

This classification of human beings obtained in medieval theology. Everybody was either good or bad; either an eternally persevering saint or forever damned. There were no colors except black and white. Now we know there are other colors in nature besides black and white. There are gray and drab and brown and there are myriads of blending tints. We should also know that human beings are not either all black or all white in character. Few, if any, are capable of such hard and fast classification. Most of them are neither black nor white, but gray of different shades ranging from near black to near white. Some at a little distance appear perfectly white, but on a close inspection reveal spots of black carefully obscured by the surrounding glare. Others on first view appear solid black, but under the microscope show hidden streaks of white. There are few human beings who have not been guilty of misconduct in some degree of culpability. Professional misconduct ranges all the way from acts which barely escape the law defining crimes to slight discourtesy or neglect of duty. When a man proclaims that he has never done a wrong, is incapable of doing a wrong, be he heathen or Christian, he should

be watched. You will be likely to discover, on close inspection, black splotches beneath the white veneer.

We are too lately emerged from our ancestral savagery, when what we now call crimes were proclaimed virtues; we have worked in the harness of civilization too short a time to say that the savage instincts of our ancestors are entirely eradicated.

Let me mention another thing which the public forgets. There is always an insistent demand for the services of the unscrupulous lawyer and the unscrupulous doctor; nor is that demand limited to the petty practitioners. Those who are ready to pay for crooked work on the part of the lawyer are all classes, ranging all the way from the heads of great corporations who want to steal franchises, to the individual who wants assistance in committing a petty fraud. Among doctors the demand comes not only from the gullible person who seeks a quack remedy, but from the well to do, the respectable leaders of society, who want the service of the best talent, and frequently call upon you to do things which your code of ethics and your sense of professional fitness forbids you to do. As long as that demand for irregular professional work exists, so long will there be more or less supply for that demand, however rigidly we may try to enforce the rules of proper conduct.

The reason why there is at present so severe a call-down of professional men is not because breaches of propriety have been more flagrant than formerly; just the contrary is true. There never was a time when professional honor and professional ideals were held in higher esteem than now. The reason why greater attention is now given to delinquencies in that respect is the same reason that political crimes and business irregularities are condemned with greater severity. It has been called a quickening of the public conscience. It has been often noticed that of late years people have demanded with more insistence than ever before that there shall be pure elections, rectitude of conduct and the general application of the golden rule in all the relations of life. The better the world becomes the more people complain of its badness.

The standards of conduct which we prescribe for ourselves are high enough; as high as the best ethical conception can devise; higher than any of us are able to live up to all the time, although we may hope to do so and pretend to do so. Let us admit in all humility that we are not kept in the correct course, so far as we travel it, altogether nor chiefly by the natural impulse to do right, but by the constraints of public opinion and the demands of conventional life. Those who can remember and those who

have been told what some men did in this country when the restraints of law and order were removed during the Civil War, know that we dare not predict if the restraints of civilized life were removed, to what lengths the inherited savagery of our race would carry us.

However, individually, we can keep always before us the standards of conduct by which we claim to be guided and we can hope that we may more and more be able to respond to the lure of higher ideals and the love of righteousness for its own sake.

Woodruff Building.

PREVENTIVE MEDICINE IN OBSTETRICS*

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Do you appreciate that in the United States this year 20,000 women will sacrifice their lives on the altar of child-bearing? That many times 20,000 women, following poor obstetric practice, will live in suffering and partial invalidism, which might have been prevented? That an appalling army of babies is mentally and physically crippled at birth. That 30 per cent. of all blind persons are blind because of neglect of about two minutes' time at their birth? These are facts which should command our attention and enlist the sympathy and cooperation of every man in this society. Little thought is given by the laity or the profession to pregnancy and childbirth. Necessarily, under the present system, the great bulk of obstetrics must be done by general practitioners; the practice of obstetrics requires harder work and yields less reward than any other line of medicine. No part of a doctor's work is more important nor has such far-reaching results. Child-bearing is the most essential function for the preservation of the race and nation.

The war bulletins advise that 20,000 illegitimate war babies with their mothers in London are to be cared for by the state and given a chance to make good in life. Can we not provide as well to protect our legitimate mothers and babies outside of war's influence?

In this great Middle West we have few rickety children, consequently when these girls are mature we have few mothers with deformed pelvises. Contrary to the usual belief, the tenebrons furnish most of the maternal dystocias; a deformed pelvis in obstetric practice in Missouri is a rare thing.

We look askance at gonorrhea, the greatest enemy of pregnancy, yet its sequelae are so diverse and destructive that one half of all childless marriages may indict and convict this monster as the king of sterility. Bieberbach says venereal disease is a manifestation of prostitution. Neisser believes that of ten million families in France two million are childless, one half of which is chargeable to gonorrhea. The *Boston Medical and Surgical Journal*, Feb. 11, 1915, prints an instructive review of venereal disease by Dr. Bieberbach, and in editorial comment says: "No single measure of control or prevention is going to solve this problem over night; but perhaps it may fairly be considered that the civilization which shall succeed in improving the conditions surrounding marriage, and in encouraging and making possible early marriage among the young, instead of discouraging and tempting away from it, will have gone far toward the eradication of prostitution, venereal disease, and all their attendant evils."

Syphilis is the next great obstacle to child-bearing; fortunately most syphilitic mothers miscarry and the few congenital syphilitic babies that are born rarely survive, nature very kindly cleaning her own house of this biologic scourge. Prostitution is the wide avenue for the spread of gonorrhea and syphilis. Lack of time forbids a discussion of methods for the control and suppression of prostitution, but I will voice an open secret that police regulation in the United States today is worse than useless. The nation-wide protest against the public sale of intoxicants will have a decided influence to restrict the spread of prostitution and venereal disease. Surely some method for the reduction of venereal disease may be worked out in our social economy.

For centuries false modesty in parents and teachers has allowed the child, especially the girl, to grow up and enter matrimony in utter ignorance of sexual life and its consequences. Finally the United States, through the department of labor, has awakened to its duty to young expectant mothers and has issued in large editions a monograph entitled "Prenatal Care," which is a compendium of necessary common-sense information for the pregnant woman. A copy should be placed in the hands of every woman early in her pregnancy or perhaps better given to her with her wedding certificate. In the writer's practice a copy of this excellent little pamphlet is given to each patient at the first consultation relative to pregnancy. These little books cost five cents and may be obtained from the public printer at Washington. Every pregnant woman should be encouraged to consult her doctor early in pregnancy. The wise doctor will gain her confidence and friend-

*Read at the Fifty-Eighth Annual Meeting of the Missouri State Medical Association, St. Joseph, May 10-12, 1915.

ship, will give her practical information about her condition, diet, exercise, etc., and will give her to understand that she is going through what is usually a normal physiologic process, but which may become a complicated pathologic illness of nine months' duration. Her peace of mind will be greatly restored by a definite denial from him of the specter of maternal impressions; this relic of witchcraft still holds sway among many cultured people, and I regret to admit that some doctors, while perhaps not professing belief in, still fail to deny, this outrageous superstition.

A history of the patient relative to pelvic disorders and acute infectious diseases should be taken, and a general physical examination should be made. Special attention should be given to pelvic examination, and measurements should be taken; a pelvimeter is to be used in questionable pelves, otherwise it is not necessary; a skilful doctor can estimate fairly accurate diameters with his fingers. The patient should be required to submit urine for examination twice per month during pregnancy and blood-pressure should be tested from time to time.

Blood-pressure above 140, albuminuria, or glycosuria will put the careful doctor on guard, and the future conduct of the case may be outlined from any standard text. Many pre-eclamptic cases may be safely delivered a few weeks before term, thereby averting the terrorizing tragedy of eclampsia, and preserving the lives of mother and baby. Skilful examination to be followed by conservative judgment is essential in these cases. My observation has been that blood-pressure findings very often indicate toxemia before the renal changes are noted in the urine.

Preparations for labor should be completed three to four weeks before term, since many women go into labor before the time set. Cleanliness is the one great requisite. Two or three sheets, one-half dozen towels, a pound of absorbent cotton made into vulvar pads, some night gowns and binders are sterilized and laid away to await their use. Rubber sheeting, newspaper pads, some metal pans, alcohol, boric acid, douche pan and other sickroom necessities are provided. Patients even in very moderate circumstances very willingly cooperate with the doctor in making these preparations and are grateful that their obstetrician shows so much interest in their welfare.

After labor has begun, an abdominal examination should be made to determine the presentations; if the vertex be presenting, vaginal examination at this time is unnecessary; if after several hours no apparent progress has been made and one is led to suspect some abnormal-

ity, a vaginal examination may be made under surgical cleanliness. Boiled rubber gloves should be used in every case and this is particularly desirable by family physicians who are in contact almost daily with some form of infection. The doctor's street clothes should be changed to prevent soiling of same, as well as to enable him to enter the room in clean, simple clothing of some sort, preferably duck. The vulva should be clipped or shaved, thoroughly washed with soap and water and douched with bichlorid solution 1 to 2,000 or some other antiseptic before vaginal examination is made.

A few years ago a young doctor located in a strange neighborhood thickly populated with families of small financial circumstances in Kansas City; he conducted his labor cases from the beginning along the lines just suggested, using duck suit, sterile operating gown, rubber gloves and sterile coverings for the patient; the other doctors in the neighborhood smiled and joked about this technical fellow. Five years have passed; this young doctor now has the largest obstetric practice, as well as general practice, in the neighborhood and the other doctors who smiled at him five years ago have adopted his methods because the patients demanded it. He told me not long ago that he had been surprised at the readiness of cooperation by the patients in these matters, as he had been led to believe that the patients would regard all such preparations as unnecessary.

In the latter part of the second stage, when the presenting part is showing at the vulva, partial chloroform anesthesia may be induced safely and with much benefit in preventing lacerations by retarding the advance of the head; complete anesthesia may be used in the final delivery of the head. The greatest care and deliberation should be used in the delivery of the shoulders, since many lacerations occur at this stage after the head has been delivered without a tear.

If forceps be used special care should be taken in the application of them; too often I fear an attempt is made to adjust forceps on faulty positions of the presenting part with resultant serious injury to the child. Very often these faulty cases are easily delivered by version with greater safety. Sometimes we forget to be conservative and deliberate in these deliveries with the usual regret afterward. When forceps cannot be adjusted with reasonable ease, they should not be forced. High forceps delivery is a procedure of great danger and has been discarded by most obstetricians.

The placenta is often delivered too quickly, at least thirty minutes should be allowed before any attempt is made to Credé the uterus. A hurried placental delivery invites hemorrhage.

In so-called retained placenta, unless hemorrhage be alarming, no effort should be made at intra-uterine manual delivery. This is an extremely dangerous procedure even under the strictest surgical asepsis. Invasion of the uterine cavity before the babe is born, while the membranes serve as a lining to the uterine cavity, is not attended with much danger of infection, for when the membrane comes out it will bring with it any infection carried in by the hand, but after the baby is born and the membrane has collapsed about the placenta, it is a most dangerous thing to pass even a gloved hand into the uterine cavity, because absolute vaginal cleanliness is impossible. One may wait safely for hours on a placenta, even for a day or two, if there be no severe bleeding.

Immediate repair of the cervix is to be done only when cervical bleeding is severe, though a few obstetricians recommend an immediate repair of the cervix in hospital cases. Immediate repair of the perineum should be made in a surgical manner. The usual perineal repair is a makeshift by suture of the skin and mucous membrane only. To be of value as a repair, the levator ani muscle must be brought together by suture, the fascia then approximated and then the skin and mucous membrane. Mucous membrane tears require no repair. The mother is now cleaned up, sterile vulvar pads applied, abdominal binder adjusted not too tightly, sterile gown applied and placed between sterile sheets where she is left to rest and sleep if possible. She will require plenty of good food and water; a thorough flushing of the bowels should be done within the first thirty-six hours; impaction of the bowels is a frequent cause of postpartum febrile conditions, which clear up on flushing. Usually the bladder will empty itself within twelve hours, rarely requiring catheterization, especially if the patient be allowed on the jar. However, I have seen above eighty ounces drawn from the bladder during delivery. The nipples are to be swabbed after each nursing with alcohol to prevent fissures and infection. When the breasts become hard and painful, they are to be supported by the Whitridge Williams method, which holds them gently forward and upward allowing the blood to return from the breast to the trunk. It is the failure of venous return from the breast and not the pressure of the milk, which causes painful breasts. Pumps and massage are of little or no value and may cause trouble from bruising of the breast. Codein by mouth may be used for severe afterpains and painful breasts. The mother should be put on a jar once each day to insure drainage of the pelvis.

The little patient requires some attention. As soon as possible after delivery the eyes should

be washed with a solution of silver nitrate at a strength of 1 to 2 per cent. This is required by law in many localities and should be universally compulsory. It was a great satisfaction to the writer recently to draft an ordinance of this sort, which has since become a law in Kansas City. The baby's mouth requires no attention by the nurse. The old practice of swabbing the mouth for several days has been found to do more harm than good. "A toothless mouth needs no cleaning." The stump of the cord should be bathed with alcohol and dressed dry and not disturbed until cord comes off, following which it may be swabbed at the daily bath with a little alcohol. The nursing periods vary from two to three hours, the longer periods being more in favor of recent years. Umbilical hemorrhage is to be watched for in every case. Normal horse serum hypodermically will check it in nearly every case.

In conclusion, the writer claims no credit for anything new in principle or practice. It is hoped he has reflected the best usage in present-day obstetrics, and that some good may result in the care of pregnant women from the reading of this paper.

Painless childbirth via the twilight sleep route of scopolamin, or the use of nitrous oxid perhaps will reduce much of the suffering during labor, and I see great possibilities for their use, but painless childbirth will not lessen the danger of infection nor of permanent injury from incompetent and indifferent obstetric practice.

Since we know that more than one half of all maternal fatalities in childbirth are from infection, we feel the obligation to urge again surgical cleanliness in these cases. All of the mistakes we make in diagnosis and delivery will do less harm than unclean technic, which is preventable in every case.

NOTE.—Since this paper was read the American ophthalmologists have declared unanimously against the efficiency of argyrol in any strength as a germicide and recommend the use of AgNO_3 1 per cent. of protargol 1 per cent.

1208 Wyandotte Street.

DISCUSSION

DR. W. B. TOOTHAKER, St. Joseph: I am heartily in accord with everything the doctor has said on this subject. I have had a few cases of gonorrheal infection, gonorrheal ophthalmia, but we may prevent this by the use of 25 per cent. argyrol. I have used nitrate of silver—oftentimes it is not necessary to use anything—but after using the nitrate of silver solution I have found in my own cases inflammations of the eyelids, and I always keep a fresh solution of argyrol on hand, because it is much better than a solution that has been standing for some time.

In regard to the use of an anesthetic, chloroform is preferable in some cases, but with the majority of patients I prefer ether, and although I notice that some patients do not care to use anything, after a few whiffs of ether they are very glad to take it. I had a case recently in which I used chloroform in the

last stage, but in protecting the perineum I was not, perhaps, as careful as I should have been and I had a complete laceration which necessitated a repair.

In the delivery of the child I do something that was not brought out in this paper, though I think it was mentioned at yesterday's session; when I deliver the head it is always between pains. Perhaps I am not as aseptic as some; during the delivery of the head, I insert a finger into the rectum and hook it over the chin and between pains I deliver the head. In the case referred to, had I had an opportunity to do that I do not think I should have had the tear. I have done that in a large number of cases without a tear. I know many do not like this procedure because it is not as aseptic as might be, but in doing so you do not make subsequent vaginal examinations and after the head is born you can deliver the rest of the body without again resorting to it.

In dilatation I oftentimes dilate the cervix; if necessary I dilate the perineum and dilatation with delivery of the head in the manner that I have just suggested will do away with a great many tears.

In regard to repair of the perineum, of course, we all repair it when necessary and I try to pick up the levator muscle and then suture the musculature over that and I generally get good results.

Now as to the bowels, we say that the patient should take care of herself. She should be given instruction as to the care of the bowels, the skin, the kidneys, the breasts, the nipples, but I want to be a little explicit in my directions. I have in the last year been advising the use of the enema. I have my patients use just plain, warm water, and this is especially good in the summer time, when the pregnant woman is eating a great deal of fruit. There is considerable fermentation in the bowels and the use of the enema gives the patient a good, refreshing sleep. She is much better the next day. I have found that after a patient has been using the enema and then has left off for a night she will be much more uncomfortable the following day. The doctor has said that the nipples should be kept clean and should be examined once a month by the physician. The patient should be instructed to use an astringent solution, say tincture of lavender with a little glycerin and this with putting a little traction on the nipples for about two, three or four weeks before the expected labor oftentimes does away with the discomfort of sore nipples.

The doctor speaks of the cord being dressed. I dress the cord in the usual way. I never use alcohol, just take the cord and press it dry with gauze, put on a little boric acid or talcum powder, cover it up with cotton and lay it to the left side.

DR. C. A. POTTER, St. Joseph: It gives me a great deal of pleasure to discuss Dr. Wilhelm's paper, because Dr. Wilhelm and I were doing service at the lying-in hospital at the same time. There are two things that I wish to speak of. One is the poor repair of the perineum that surgeons see following obstetric practice. I think I am right in stating that one third of all the perineums that we have repaired in the last two years had been repaired after obstetric delivery. The sutures were placed through the skin of the perineum, giving what you might describe as a sort of toboggan appearance to the perineum, the floor representing the toboggan, that floor sloping up to the fourchet and on the slightest straining or on standing up, a well-marked rectocele occurred over the fourchet. It seems to me that the obstetrician in repairing the perineum should repair the deep perineum as well as the superficial perineum, and if he is not sure that he can secure the correct position of the levator ani muscle, I think that he should call in a man who does gynecology to do his perineums. If he is not sure of his repair, he may do the opera-

tion of episiotomy, which is done when the head begins to bulge on the perineum and it is felt that laceration is imminent; one lateral cut or two cuts will prevent in almost all cases the laceration of the perineum either superficial or deep. That cut may be repaired in any old way and the woman will have a splendid perineum following her obstetric delivery. I want to emphasize that procedure because I think it ought to be used more than it is in obstetric practice.

Since I have been in obstetric practice I have become converted very markedly to the use of pituitrin and I believe that if more pituitrin were used and used after the cervix has been dilated and the head has begun to descend, forceps will be employed in one sixth of the number of cases that they are if pituitrin is not used. It took me a long time to learn that, but I have learned it. I have found that in small women with very tight perineums and retarded pains the use of pituitrin has worked marvelously.

As to following out asepsis in country obstetric work, I heartily agree with Dr. Wilhelm that the man who sticks to the ideals he has received will eventually win out as far as the work is concerned.

DR. FRANCIS E. WILHELM, Kansas City, closing: In regard to the use of ether, this paper was written for family physicians, not for country doctors, but for family physicians. My observation has been that country doctors in a general way are better obstetricians than city doctors; among the very best men I know in general practice doing obstetrics are country doctors. That is not intended in any way to reflect on city doctors, nor on family doctors anywhere, but simply to bring out things that are possible for them to do. If I had been writing a paper for hospital use, perhaps it would have been a different paper, but I wrote for the men who can do in any kind of circumstances anything which has been suggested here. In major operations, or any kind of operation in obstetrics, of course, I use ether; I do not use chloroform. Chloroform is used whether the father or the grandfather or whoever happens to be there can give it and where that is the only kind of assistance you can have.

The doctor spoke about the delivery of the head with the finger in the rectum. I take it that all men deliver the head themselves, they do not allow the head to be delivered during a pain, of course. When the head is down sufficiently so that I can put my finger behind the rectum, not within the rectum, I place a sterile towel over my gloved finger and place it up behind the anus and reach up in there and then I can get control of the chin, the patient is then given complete anesthesia, following which I lift on the chin and deliver the head. The head is never delivered except during anesthesia, unless the patient delivers it before I can get to her. For operative work, version, forceps, any of these things, ether is given instead.

The use of pituitrin is certainly of remarkable value. I have used it three times in my practice, and I confess that I am thoroughly converted to its use in cases where it is essential. I think it is a very dangerous thing and is to be used only in proper cases in which there is no question about the outlet being open. Another circumstance that has influenced me in being very careful about its use is the fact that we have had in the General Hospital two cases of ruptured uterus following the use of this drug. I was very much surprised to hear so noted a man as Bandler of New York say that he gave pituitrin in every case, premature and otherwise, and that he had had no bad results; but the testimony of other men who are leaders in obstetrics in this country does not agree with that. I think it is a very dangerous drug and a good one in cases where we have uterine inertia to combat.

VESALIUS AND THE PRACTICE OF MEDICINE*

FRANK J. LUTZ, M.D.
ST. LOUIS

The importance which attaches to the publication by Vesalius in 1543 of "*De humani corporis fabrica libri septem*" has so completely overshadowed his position as a practitioner of the healing art that his professional accomplishments are either not mentioned at all by those who have written of him or else his biographers indulge in conjectures concerning the reasons why he abandoned his researches in anatomy and quit teaching this discipline to devote himself entirely to the practice of medicine.

The motives which are ascribed to him for seeking and accepting the position of physician to the court of the Emperor Charles V. and thus entering exclusively upon the practice of medicine are said not to have been the most exalted. Charles was the descendant of a mother who early in life became incurably insane; he himself was an epileptic; at the age of 30 he had articular inflammations—rheumatic and gouty—he suffered from asthma and disturbances of digestion, the natural consequence of the irregularity and size of his meals, besides he was himself a quack and associated with quacks, medical and lay, and he insisted upon acting as emperor in things medical as well as governmental. Considering all these facts one is inclined to believe that the love of money, ambition for social position and the patronage of the mighty must have overbalanced the scientific spirit of the great Belgian physician. And yet to reach this conclusion is to overlook his own avowals, his conduct as a physician and his work.

In anatomy and in practice Galen dominated the times, as he had for centuries before Vesalius. Vesalius is constantly referred to as inveighing against the faulty anatomy of Galen, and as presenting true anatomy based upon dissections made by himself. This is unquestionably what Vesalius did. He substituted for the imaginary structures as described by the Galenists the findings, in many instances correctly interpreted, of the skilful observer. He brought method and criticism to a high degree of efficiency in anatomy. It must be emphasized, however, that for Vesalius anatomy was only a link of the larger chain—the practice of medicine. After he had revived and rejuvenated anatomy, he turned his attention to the real problems which confront the physician—the problems of the healing art. Anatomy was his preparation for this work. If we make more than a cursory examination of the "*fabrica*" it will at once

appear what a high opinion he had of the healing art and how strenuously he opposed the severance of medicine and surgery. In that most sublime of prefaces, the one to the *fabrica*, he elucidates from the older physicians headed by Hippocrates that they cultivated medicine as a whole; that they understood dietetics and knew medicinal substances, and practiced surgery. Even Galen himself practiced as a surgeon. Under the influence of the Romans the physicians abandoned their science and art. Attendants were entrusted with the preparation of the food for the sick; apothecaries prepared the drugs, and barbers performed surgical operations. The physicians reserved for themselves only the ordering of drugs and the feeding of patients who suffered from internal disease. Surgery was despised by the physicians, although as Vesalius says, it is based upon observing nature. Surgeons were treated as servants. According to Vesalius the physicians owe it to their own conduct that the "*sacratissima ars*" is scoffed at, for they have abandoned the best part of it. Podalirius and Machaon are not glorified by Homer because they could check a fever, which nature cures without the assistance of art, nor because they understood how to tickle the palate in obscure diseases, but because they could reduce dislocations, treat fractures, check hemorrhages and heal wounds. He insists upon the unification of medicine and emphasizes the opinion that the renunciation of surgery on the part of the physicians had in its wake the decline of anatomy and of anatomical instruction.

He does not, however, wage war solely on the accepted anatomy but on the entire medicine of his day. He calls the attention of his contemporaries to the dismemberment of their art and points out the lack of education of the surgeons—*vix dimidiato medicis*—"hardly half physicians" as he calls them, and the physicians he designates "prescribers of syrups and money makers." Vesalius not only exposes the weak points of the medicine of his day unsparingly but suggests a remedy; the educated physician must wield the anatomic and the surgical scalpel—he must make a grand whole of medicine.

Nor is this mere rhetoric on his part—he practiced what he preached. He sought every opportunity to fit himself for the practice of medicine. As a youth he desired to become a physician. Under Sylvius and Gunther in Paris he studied his profession with a view to practicing it and in his first literary work, the "*Paraphrasis*," he insists that the object of medicine is to heal. He never lost sight of the practical side of our art; in Paris he visited the leper hospital; he made a postmortem examination in Lyon; during his stay in Italy he observed, whenever opportunity afforded, cases suffering

* Remarks before the St. Louis Medical History Club.

from internal diseases, practiced surgery and attended cases of confinement. All his publications had a tendency to promote the practice of medicine in one way or another, although it is true there is but slight mention of pathologic disturbances in the *fabrica*. Nevertheless it is apparent that the work was written with a view to the practical necessities of the physician. This is proven among other things by his theory concerning the joints, and by his most accurate and complete description of the difference between the male and female pelvis.

There are many indications in the *fabrica* that he worked for several years on an anatomico-pathologic work. Nothing of this work has, however, been preserved. He consigned the manuscript to the flames in a fit of discouragement and despondency. How great the loss to science can only be conjectured.

In the epitome of the *fabrica* he tells us that in order to heal, a knowledge of the disease is indispensable and that this knowledge must be derived for the most part from the local disturbances. By postmortem examinations he learned the true nature of the disease. His experience enabled him to point out that hypostatic reddening of the skin is a postmortem phenomenon and that the serous accumulations after death in the cavities of the body are due to putrefaction. He warns against the cauterization of the anterior fontanelles then so much in vogue because of the close proximity of the sinus. He was familiar with the senile synostoses of the cranial sutures. He knew of the supracartilagenous union of the bodies of the vertebrae and the exostoses in the joints of the aged. He reports two cases in which the necropsy revealed a corrugated, hobnailed liver associated with stones in the gall bladder. He was the first to call attention to the thoracic deformities which are caused by lacing, having observed the condition when as a student of medicine he examined the body of a woman after her death. A physician, with whom he had been associated in the treatment of a case in which Vesalius had diagnosed an aneurysm, reported to him the postmortem findings, during which the diagnosis was corroborated. In his answer, great as was his triumph, he modestly thanks his informant and ascribes to him much of the credit of the diagnosis.

At the age of thirty he became the court physician. We need but briefly refer to his duties and to the opportunities which his position afforded for gathering large experience in both medicine and surgery. His duties included the supervision and treatment of the emperor and his entourage which was composed of many hundreds of persons, as well as the care of such nobles, ambassadors and envoys as enjoyed imperial favor and friendship. In the recital of his own experiences he records many highly

interesting and important cases in which persons of high rank sought and obtained his professional services. He accompanied his imperial master to the wars, to the diets and upon his numerous and extensive travels throughout the large domains over which the emperor reigned—always practicing his art and gathering experience.

Concerning the private life of Vesalius, little has come down to us. The controversies in which he engaged after the publication of the *fabrica* show conclusively his choleric disposition and his ability to hold his own with those most familiar with the subtleties of disputation and but few surpassed him in the command of invectives. His biographers mention the names of many learned men who were his contemporaries and with whom he carried on scientific correspondence. But few whose names are mentioned are called his friends, if you will except Johann Baptista Montanus, celebrated for his knowledge of the ancient languages and of medical literature, and Marcus Antonius Genua, the most learned expounder of Aristotle.

No stories, no anecdotes, nothing touching upon his social life has been preserved. He was married in 1544 to Anna Van Hamme, the daughter of an official of Brussels. A daughter Anna was their only offspring. When he made his pilgrimage to Jerusalem his wife, protected by the royal safeguard, returned to her home with her child and a short time after the news of her husband's death was conveyed to her she sought solace with another spouse.

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SOME FACTORS IN THE SUCCESS OR FAILURE OF THE SMALL HOSPITAL*

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Problems incident to the successful management of institutions whose purpose is the care of the sick, whether they be large or small, are many and practically the same. All must be organized on a suitable financial basis. The problem of help, the ever increasing cost of food supplies and equipment, the rapidity with which expensive apparatus becomes useless and has to be replaced, the scarcity of suitable material for the training school for nurses, and the prevention of waste are but a few of the perplexing questions that the hospital administrator must solve if his institution is to meet the demands made upon the present-day modern hospital.

* Read before the Jackson County Medical Society, Jan. 5, 1915.

The small hospital of thirty or forty beds, has a definite place in our society and has come to stay. Occasionally we find cases that could be given better care in the larger institutions, but a majority of patients will secure first class attention in the small well-managed hospital. It is really not the size of the institution that makes the service, but the size of the people charged with the responsibility of conducting it.

When it is proposed to establish a small hospital many points should receive careful consideration; but the one upon which a large proportion of the hospital's success will depend is whether or not there is an actual demand for a hospital in the community. The law of supply and demand will govern the hospital question just as it would a bank or other mercantile business. It would be useless to build and equip a fine hospital, and expect it to be patronized, unless it was needed and met the requirements of the community in which it was located.

The rapid advance in the development of medical science is alone responsible for the growth and efficiency of modern hospitals and kindred institutions. Not long ago the sick were sent to hospitals as a last resort, and little there was to encourage the friends of the patient that he might recover; but with the discoveries of Virchow, Lister, Pasteur, Roentgen and others a new era dawned, and the public soon recognized that the hospital has something to offer in the way of scientific care of the sick that could not be had elsewhere. Along with the hospital laboratory, Roentgen-ray equipment and other diagnostic and therapeutic aids came a better understanding of disease processes and a marked decrease in hospital mortality. These new standards have added much to both the physician's and hospital's responsibility. The increased cost of hospital service has been a great financial burden to many small hospitals, but this responsibility must be met, and if the need actually exists for the small institution in the community, and its management is in harmony with economical, ethical and good business principles it should be able to meet the increasing demands without difficulty or financial embarrassment.

Unless the small hospital is unusually fortunate in a financial way and is in a position to meet the competition of larger institutions it may have difficulty in securing high class staff connections. This is indeed unfortunate; for a hospital's relation with the medical profession must be above reproach. If the staff is closed it should be composed of the best available men. If the institution is conducted along open lines no physician guilty of shady practices should be permitted to practice in it. If the hospital is to succeed it must have the entire confidence of its patrons and should be in a position to guaran-

tee a fair and square deal to the patients. Many patients enter the hospital without the slightest knowledge concerning the ability of the physician or surgeon and know nothing of the hospital's facilities for furnishing adequate service. The sick and uninformed are entitled to protection and the hospital management is equally guilty with an incompetent surgeon for malpractice. Ignorance of a physician's qualification and professional standing does not relieve the hospital of a responsibility rightfully placed. The courts have decided that the hospital may be and in some cases must be made a party to the defense of a suit for malpractice alleged to have been committed in the hospital. It is a well-known fact that the most incompetent and untrained physician, abortionists who have spent terms in the penitentiary, and others who have paid fines in the criminal courts, have always been able to find hospital accommodations in the communities in which they practice. Hospitals with such a policy are always behind with their bills, the service is indescribably bad, and they finally fail because there is no excuse for their existence.

A rigid supervision of the charity account is absolutely essential if the small hospital expects to succeed. It costs just as much to care for a patient occupying a charity bed as it does his neighbor who is paying a regular charge. If the right sort of service is given, nurses and other attendants should not know which are free and which are pay patients. Before a free patient is admitted his application should be carefully investigated. It is not a good plan to leave this matter entirely to the applicant's physician; the hospital should make its own investigation and decide for itself whether the case is suitable for its free service. Indiscriminate charity should be discouraged both by hospitals and physicians. We are pauperizing the community by donating hospital and medical service without regard to the applicant's condition or needs. A recent investigation by the Cook County Medical Society showed that 25 per cent. of the entire population of Chicago were receiving free medical attention in some way, while only one half of one per cent. were receiving charity of other kinds. In other words, the burden placed on medical charity was just fifty times greater than in all other departments of charity work.

The proper administration of charity is a business, just as much a business as the purchase of supplies. It is a department of hospital work and a foolish gushing sentiment has no place in it. No hospital is too small or poor to render a certain amount of free treatment, and it should be considered reprehensible for a rich, heavily endowed hospital to dispense its medical charity without the closest scrutiny of

the patient's financial condition and a proper regard for the physician who is charged with the responsibility of caring for the free patients. Another point—it is a great mistake for hospitals to conduct campaigns for funds and hold out to the public the idea that they will be able to do a large amount of free work, and at the same time be self-supporting. Charity service costs money; and if it does not come from one source it must come from another. If the institution cannot get its funds by subscription or endowment the patients paying are overcharged to make up for the loss on nonpaying ones. This is all wrong. Each patient should be charged a fair price for the service actually rendered and if this, along with what comes in from other legitimate sources, is not sufficient to maintain the hospital it is time to change the plan of organization or close its doors.

May I digress from the direct lines of my subject long enough to say a few words regarding a new and modern method of collecting funds for hospitals. I refer to what is known as tag day; at this time a large group of women and young girls appear on the street corners and in the public buildings, begging money from every one who is unfortunate enough to find it necessary to be on the streets that day. These funds are apportioned to hospitals on a percentage basis, partially reimbursing them for the free service rendered during the previous year. Other cities have adopted other plans. The women and children of Salem, Ore., seem to be a little more ambitious and enterprising than any yet reported. Their plan was to sell kisses at one dollar each to men and boys and in this way they raised quite a sum of money. Why not the members of this society keep account of their charity work and at a stated time send our wives, sisters and friends on the streets to collect as much as possible from the public and pro-rate the result according to the amount of work each has performed. Of course, it goes without saying that we contribute our mite with good grace and willingly, but I am sure that many contribute who are less able to make the contribution than the patient for whom the hospital service was rendered was to pay for the service; and to ask strangers who are not in the least interested in our local affairs to put their money into a proposition about which they know nothing and care less, is unfair, and it is to be hoped that this very undignified travesty on charity will soon die a natural death, and our hospitals will see the wisdom of not attempting to do more free work than their finances will support and when that limit is reached refer the applicant to the general hospital for care.

No hospital is so small that the management can afford a hit and miss system of accounting.

There are several good plans designed for use of hospitals of medium size; among the best known are the ones compiled by Draper of Ann Arbor, Fisher of New York City, and the one appearing in the *Modern Hospital*. A slight modification will adapt any of these to the use of any size institution. Or if the superintendent can indicate to an expert accountant just what he wants it is comparatively a simple matter to work out a plan, along with the ledger and report blanks of special rulings, that will exactly meet the demands. Simplicity coupled with accuracy is of prime importance; a mass of complicated figures are of no value. If the management think that the employment of a regular accountant is not warranted, the affairs of the office should be kept in such a way that at regular intervals a bookkeeper can post the ledger and render a full financial statement. There is no good reason why statements to patients should not be rendered, at suitable time, in advance. Bills should be paid promptly and discounted. Every effort should be made to locate leaks and small losses. Comparative cost of service tables, rendered from month to month, often show a leak which could not otherwise have been located. It is all a matter of painstaking care of details and a superintendent can easily save his salary by completely mastering the situation.

I doubt if there is another single factor in hospital routine that contributes more greatly to the success or failure of either a large or small hospital than the purchase, preparation and serving of food supplies. The small hospital is handicapped in purchasing because usually the quantities purchased are so small that it is impossible to secure low prices and only a few hospitals are prepared to carry a stock on hand that will warrant the merchant in quoting rock bottom prices. If possible a vegetable cellar should be built; this will enable the hospital to store an entire winter supply of vegetables purchased at a time when the prices and quality are right. As far as possible all supplies should be bought by one person and by weight rather than measure. The purchase of meat is a problem in itself, and each institution must work it out according to its individual requirements. Probably the most economical way is to purchase from time to time the exact cuts needed, paying cash. The butter, egg, poultry, and milk market must be watched carefully and if the conditions warrant a contract for the supply of these commodities for a specified time may be made with advantage to the hospital. A set schedule of meals should not be thought of. Can you imagine anything more discouraging than to know that Monday is chicken day, Wednesday is mutton day and Saturday beef day. Pages might be written regarding this

phase of hospital work but time will not permit. The board should hold the superintendent responsible for an accurate knowledge of the market conditions, and he should be prepared at any time to take advantage of a favorable break. Not only on food supplies must he keep posted, but in cotton, gauze, drugs, and all sorts of physician and operating room necessities.

Equally important with the purchase of food supplies is the prevention and disposition of waste. This problem should be studied until waste is reduced to a minimum. Whoever may be charged with this responsibility should carefully inspect all returned food and regulate the supply in such a way that any amount of waste will be impossible. A competent, energetic dietitian can easily save an amount equal her salary by checking and studying the problem of prevention and disposition of food waste.

The operating room nurse should be held responsible for the care of the operating room supplies and equipment. Rubber gloves, hot water bottles and ice caps require special mention. They should be mended and passed down the line of service until they are useless and then sold for old rubber. All soiled gauze and bandages from the wards and dressing rooms should be washed, ironed and utilized. About 75 per cent. can be washed four times. It then can be sent to the cotton picker, if one is available, and it again becomes useful as lint.

The hospital drug room is always a source of many and very expensive leaks. The poorest economy imaginable is to try to get along with a cheap pharmacist or by placing a nurse in charge of the pharmacy. If it is found impossible to employ a graduate pharmacist it is the best plan to buy everything prepared and not to try to manufacture anything, as more will be spoiled and wasted, and nothing ever said about it, than half the salary of a competent person would amount to.

The cost rule of the National Association of Retail Druggists should be adopted and patients charged for what they use. It is not right to have a fixed charge for prescriptions, regardless of what they contain, on the theory of what is lost on one prescription will be made up on another. If many preparations are manufactured great care should be taken in figuring the cost of chemicals bought by weight and sold by liquid measure. By figuring the specific gravity of such chemicals about ten to fifteen per cent. will be saved. Small amounts of alcohol and other drugs should be saved and economy in the use of bottles, corks and labels should be encouraged.

I have discussed very briefly, and without any effort to go into details, a few of the problems that have to do with the success or failure of the small hospital. Much more might be said. But

if care is used in locating the hospital, a careful supervision of the accounting is made, no more free work attempted than can be afforded, and none but high class staff connections established, a reasonable success ought to be assured.

The Board of Managers have a responsibility that I have not mentioned, viz., that of outlining a definite policy. This matter should be given very careful consideration and strictly adhered to. The policy should be along broad, liberal and humane lines, for upon it the development and growth of the hospital depends. No institution ever becomes larger than the policy of its management. Low per capita cost, large endowments, admitting, treating, and dismissing large numbers of cases never made a hospital efficient or proved a success. Any hospital large or small is necessarily an economic factor in the community, a place for careful research by competent physicians, a school for training young men and women, a place where waste and medical graft are unknown but where completeness, thoroughness, thrift and honor prevail in all departments.

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INDICATIONS FOR AND ADVANTAGES OF THE HIGH INCISION IN CESAREAN SECTION *

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Cesarean section, formerly regarded as an extremely formidable surgical procedure, has, through the observance of the strictest asepsis and the improvement of surgical technic, been brought to such a point that it must be regarded as one of the most important aids to delivery in certain cases of pregnancy.

ABSOLUTE INDICATIONS

Contracted Pelvis.—By an absolute indication is meant some condition which admits of no other method of delivery. Examples of this are seen in extreme degrees of pelvic contraction. In the flat pelvis, for instance, in which the true conjugate is less than 7 cm. and the child normal in size. Further absolute indications are the highest grades of kyphosis, osteomalacia, spondylolisthesis and Naegele's pelvis, rickets, and exostosis. It is not so important to know the exact dimensions as it is to know the disproportion between the pelvic passages and the head of the fetus to pass through it.

Neoplasms.—Neoplasms of the pelvis, the uterus, adnexa, cervix, vagina and of the rectum are factors which, if present to such an extent as

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to cause sufficient obstruction of the birth canal to prevent the birth of the normal child, are positive indications for cesarean section.

Additional Indications.—Some cases of cicatricial contraction of the vagina, cicatrices of the cervix the result of old lacerations or amputations of it, or some cases where ventral fixation has been done, as well as some cases complicated by ruptured uterus, tonically contracted uterus, and accidental hemorrhage are additional indications for cesarean section.

Eclampsia.—A very large proportion of the eclampsias are best delivered by cesarean section. Davis and Markoe of the New York Lying In Hospital hold that while the mortality is high in cases of eclampsia, it is frequently the easiest and the quickest way to empty the uterus and for that reason is more favorable for the mother and the child. It has been shown that in the last five years the maternal mortality in cases of eclampsia treated by abdominal cesarean section has been reduced nearly one half.

Placenta Praevia.—McPherson of the New York Lying-In Hospital states: "I believe the indication is clear that when we encounter a primipara with placenta praevia, either marginal or central, or a multipara with a central placenta praevia, in either case where the cervix is rigid or undilated, whether or not there is pelvic disproportion, provided the child is viable and the mother offers the ordinary safe operative risk, cesarean section offers a better chance of saving the lives of the mother and the child, with fewer complications than any other method of delivery, always provided the operation is performed by a competent and experienced operator amid suitable surroundings."

Condition of Fetus.—Indications caused by the fetus will include those cases with large nonmoulding heads with thick cranial bones and small fontanels; also some cases of impacted breech or face and prolapse of cord, where infection has been avoided.

RELATIVE INDICATIONS

Then there is a class of cases of pelvic deformity or disproportion between the pelvic cavity and the child of less degree, certain cases of placenta praevia, of tonic contraction of the uterus, some eclamptic cases and also of moribund women where the operation is done wholly in the interest of the child, or else, to give temporary relief to the mother, where cesarean section vies with delivery by forceps, podalic version, pubiotomy, accouchment forcé, etc. Experience of those who have tried all methods have shown that in these cases cesarean section is the procedure to elect in the great proportion of them.

Contraindications.—Some of the most important contraindications of abdominal cesarean

section are when attempts have been made at delivery from below, or when it is suspected that any vaginal examinations have been made without aseptic precautions. The realization of these facts by operators will help to further reduce the maternal mortality.

Choice of Time to Operate.—If we have the choice of time to operate it is better to wait until labor has begun, so knowing that the fetus is mature, as one may be misled as to the menstrual history, and a deformed pelvis and spinal column may hold the uterus up in such a position that it will appear larger and nearer full term than it really is. It is not necessary for labor to go on long enough to dilate the cervix to insure uterine drainage. Therefore when labor has begun one can operate so as to save the mother from further labor pains and the child from unnecessary compression.

In the larger percentage of these cases the surgeon as a rule has no choice, the women coming under his observation being in labor or other complications appearing, such as eclampsia, accidental hemorrhage, placenta praevia, etc., which make them emergencies demanding immediate operation.

Technic—Types of Incision.—The advantages of the high incision done according to the technic to be described are (a) that it can be done through an abdominal opening about one half the size usually used in the low incision; (b) the abdominal and uterine wounds are separated by contraction and involution of the uterus thus greatly lessening the chances of adhesions; (c) the uterine incision is made through a part of the organ away from the larger blood vessels, hence there is less danger of hemorrhage; (d) the incision is made in a portion of the uterus less likely to rupture in a future pregnancy; (e) there is less escape of the intestines and omentum and so lessened shock and postoperative disturbances; (f) there is less probability of subsequent hernia.

Technic of the Operation.—The technic for this operation as advised by A. B. Davis of the New York Lying-in-Hospital, is as follows: The preparation of the patient should be conducted as for any laparotomy. When there is time there should be a thorough clearing out of the intestinal tract. In all cases an enema should be given just before operation and no vaginal douche or other attempts at vaginal cleansing should be undertaken. The bladder must be catheterized.

It is the custom to have the abdomen and the external genitals shaved, washed with sterile water and green soap. This is followed by swabbing with alcohol and ether. The whole area is then flushed with bichlorid solution and then with warm sterile water. This is done after anesthesia is well under way. The patient

is covered with sterile drapings except at the site of the operation. She is in the horizontal position on the table throughout the operation. Shortly before starting the anesthetic, 25 minims of ergot are injected deep into the muscles to guard against atony of the uterus and undue hemorrhage.

The abdomen is opened by a median incision 6 to 10 cm. long from above down to the umbilicus. One or two gauze pads wet in warm normal salt solution are placed above the fundus to hold back the omentum and intestines. Often the uterus is found twisted upon its long axis, usually toward the right side. An assistant standing beside the patient opposite the operator makes pressure with his hands outside against the side walls of the abdomen, rotating the uterus so that its anterior wall looks directly forward and so regulating its pressure that the uterus is held well up to the abdominal opening until it is emptied of its contents—child, placenta and membranes—and until several of the deep sutures are in place and tied. The uterus is then carefully opened with a scalpel so as to retain the membranes intact, by a median incision a little longer than the abdominal opening, in the midanterior surface of the uterus from just below the fundus downward. If the placenta presents in the wound it should be pushed aside or torn through and, with the hand in the uterus, the membranes should be separated from the uterine walls. Neglect of this precaution often means that they must be removed piecemeal, sometimes with much difficulty and delay after the child is delivered, and retraction and contraction have begun, and at a time when dangerous uterine hemorrhage is most likely to occur. The anterior thigh of the child, or the one which is most readily found, is grasped and delivered and breech extraction is done, turning the child after delivery of the shoulders, so that it faces toward the mother's face. Then with the middle and index fingers of the right hand astride its neck and with the same fingers of the left hand in its mouth, making traction on its lower jaw, the head is carefully delivered so that there is no sudden jolting of the uterus in its delivery. An assistant stands ready with two long clamps in which he grasps the cord. It is cut between the clamps and the child is taken away to have respiration established, preferably into an adjoining room. Then hooking two fingers of the left hand into the uterus at the upper angle of the wound, with the right hand the surgeon clears the uterine cavity of placenta, membranes and clots. A suture of No. 2 chromic gut is passed through the uterine muscle at each angle of the wound and tied. The first assistant now discontinues abdominal pressure and holds the uterus up in the abdominal opening by these sutures. The uterus is then closed with eight or ten

interrupted sutures of No. 2 chromic catgut passed just beneath the cut edge of the uterine peritoneum well out into the muscle and down to the endometrium and out on the opposite side in reverse order. These sutures are readily buried by a continuous suture of No. 2 chromic gut, placed so as to pass through the peritoneum well into the muscle, folding the peritoneum over the first layer of sutures. The abdominal pads are next removed. Very little attempt is made to cleanse the uterus or the abdominal cavity of clots. The abdominal wound is closed in three layers. The uterus takes its place in the lower part of the abdomen. A gauze dressing is held in place by adhesive bands drawn tight across the wound. Elsewhere the dressing is loose, to allow the uterus free play in the lower abdomen and to avoid holding the abdominal wall tight against the uterine wound, thus reducing the liability to formation of adhesions. The head of the bed is elevated to allow descent of the uterus toward the pelvis and to favor drainage.

The after-care in uncomplicated cases for the first forty-eight hours is that of any laparotomy and thereafter it is that of any postpartum case. The patient nurses her child, she is allowed out of bed on the eighth day, and may go home on the twelfth day.

It is hard to forget the dead and maimed children, many of the latter of whom carry their mental and physical deformities throughout their lives, or the mothers who because of shock and extensive laceration are doomed to be permanent invalids, when we feel sure a healthy, uninjured child could have been delivered and the mother restored shortly to good health had cesarean section been done.

1004 Rialto Building.

INDUSTRIAL TRAINING IN EDINBURGH FOR CRIPPLED BOYS AND GIRLS

DOUGLAS C. McMURTRIE

Editor, *American Journal of Care for Cripples*

NEW YORK

For thirteen years organized work for crippled boys and girls has been carried on in Edinburgh, Scotland, by the Edinburgh Cripple and Invalid Children's Aid Society. All of the features of this association's work are helpful, but some are so unique in character that the experience should be of general value and be likely to find application elsewhere.

To gain an idea of the field of operation it may be recalled that Edinburgh, the capital of Scotland, is a city of well over 300,000 population. The community is largely industrial in character.

The various activities of the society will be separately described.

Home for Girls.—The Nellfield Girls' Home for crippled girls, founded in 1872, antedated the organization of the society, but is now maintained as a branch of its work. It accommodates sixteen girls, most of the residents ranging in age from three to eleven years; they receive lessons from the matron, who is a certificated teacher. Several older girls are taught dressmaking. The Home is located at 21 Coltbridge avenue.

The work is followed up by the Old Nellfield Girls' Committee, which endeavors to keep in touch with all the girls who have been formerly in residence at the home. This committee assists the girls to obtain each year a fortnight's holiday in the country, and aids necessitous cases in other ways. Most of the girls, however, neither expect nor receive such material help.

Home for Boys.—The Home for Crippled Boys at 22 Viewforth Terrace accommodates fourteen residents. Board at \$1.25 weekly is charged here, as also in the girls' home, but in needy cases this is provided by outside contributors. The age limit is fourteen years.

Visitation of Cripples.—Since the founding of the society in 1902, the work of visiting cripples in their own homes has been one of its principal activities. Each year a number of invalids—children who are unable to attend school and whose parents have neither time nor talent for teaching—are given instruction regularly twice, and in some cases, three times, a week. Two examples were recently recorded to show the value of this work. "A little boy, nine years old, too delicate to start school at the usual age, has benefited so much from his visitor's teaching that on going to school this autumn he was put in a higher class than the average child of his age is fit for. Another lad, so crippled that he can never go out, was taught basket-making last winter, and not only has he now an added interest in life, but he has already earned a considerable sum of money." The society has a long list of volunteers for this work on its rolls.

Parlor Meetings.—The so-called cripple parlors, a feature of work unique to Great Britain, are held fortnightly in various sections of the city. To these meetings, which are largely social in character, the crippled children come for entertainment, companionship, and profit. Instruction is given in sewing, drawing, painting, basket-making, etc. Toys and games are provided for those too young to take advantage of the classes. There is also an industrial center at which the older boys and girls are taught dressmaking, carving and basket-making.

Clubs for Cripples.—The girls' club meets fortnightly from October till May. There are classes in sewing, embroidery and singing, and a lending library for the girls' use. A summer holiday is arranged for.

The boys' club meets weekly during the winter, carrying through some systematic program. In the summer a camping party is organized.

Relief and Assistance.—Orthopedic appliances and artificial limbs are provided for cases requiring them. Whenever possible the parents pay part of the cost. The society also loans or rents at a small fee special carriages and invalid chairs. Milk, medicine and coal are given in necessitous cases. During the year the society sends delicate children to convalescent homes in the country.

Industrial Work.—It is this feature in the activity of the society which is of particular interest. In Edinburgh, as elsewhere, were found grave difficulties in obtaining employment for cripples. The system developed solves the problem, at least to a certain degree. In 1905 a boot-repairing shop was established, and later a separate workshop for tailoring, dressmaking, and toymaking. In connection with the opening of the latter workshop the following statement of experience and principle was made.

For crippled boys and girls the problem of employment has always been serious, and especially is it the case in these days of keen industrial competition.

An important part of the society's work is in helping those who leave school to find work.

It is found that they resolve themselves into two classes—(1) those who after training may be able to take their place in ordinary workshops and become self-supporting; (2) those who will probably never be fit to enter ordinary workshops or to work for long hours, but who are able to do work under favorable conditions, and at least partly support themselves.

Even those in the first class find great difficulty in getting employment as apprentices, although, if trained to a trade, openings are more easily found.

With this in view a boot repairing shop was opened some years ago. This shop, now at 13 Brougham street, is doing good work both in repairing and making, and its turnover is steadily increasing. Nine boys are employed under a competent foreman, while a number who have been trained in the shop are doing well in other boot shops.

A large number of the crippled boys are not physically fit for boot repairing, and to help these a tailoring branch is now being opened in the new workshop; while, for girls, dressmaking is to be taught—in both cases under the charge of capable instructors, and in conditions as nearly as possible those met with in ordinary workrooms. It is hoped that in both tailoring and dressmaking a good deal of work in repairing will be given. In commencing, employment will be given to five or six boys and an equal number of girls.

For the more helpless class it is proposed to start in a few weeks the making of toys and nursery furniture, with rug making, so that, though unable to find work in outside shops afterward they may be able to do work at home or in the workshop, and so be

able at least partially to earn a livelihood. In this department there is room for about ten boys and girls. Altogether, about twenty boys and girls between the ages of 14 and 20 will probably be started in work during the first year.

Rented premises, well lit and with open surroundings, have been secured on the first floor of 13a George street, and every care has been taken in adapting the building, with due regard to economy, to make it healthy and pleasant.

For those who cannot go home for their midday meal, a hot dinner is being provided at a small charge.

At present no provision of boarding accommodation is being made for those who are homeless, but it is hoped that before long it may be possible to add this.

A word might be said for those who are too infirm to move out of their homes, and who do knitting and such work at their homes, but find it hard to get a market for it. Their need is, from the nature of things, less apparent, but none the less real. Orders for their work will be gladly received at the workshop.

The work of the boot-repairing shop is considered to have been satisfactory. In view of the fact that the primary purpose is constructively educational, the financial statement is encouraging. This expressed in dollars, and in round figures, is as follows:

Year	Earnings	Expenses	Deficit
1905.....	\$ 135	\$ 580	\$ 445
1906.....	645	954	300
1907.....	670	995	325
1908.....	790	1,240	450
1909.....	960	1,450	490
1910.....	1,225	1,585	360
1911.....	1,390	1,740	350
1912.....	2,040	2,360	320
1913.....	2,190	2,535	345

It will be observed that the receipts have steadily increased without a proportionate rise in expenses with the augmented output. It is believed that with a larger turnover the deficit may be wiped out.

The results other than financial must also be taken into account. Since its establishment forty-one crippled boys have been given the opportunity to learn a trade. These are accounted for as follows: Seventeen are working at their trade under ordinary conditions; of these six are earning from \$5 to \$6.50 a week, and another is in business for himself. Seven are earning from \$2.50 to \$4.25 a week, and three others smaller wages. Twelve proved unsuitable in physique or temperament, but some of these have found other employment. Eleven are still being trained in the boot shop. One died.

In considering the figures given, it must be borne in mind that the cash scale of wages is considerably lower in Great Britain than in this country. According to a recent report: "These boys are instructed by a competent foreman in both the making and repairing of boots, so that at the end of two or three years' training, little difficulty is experienced, in spite of their disabilities, in finding them situations in which they receive an adequate wage and have the

opportunity of completing their knowledge of their trade."

The other workshop, for tailoring, dressmaking and toy-making, has not been in operation long enough to show conclusive results. During the second year of actual operation there were three instructors and twenty-four boys and girls on the force, the latter distributed as follows: tailoring, seven boys; toy-making, ten boys; dressmaking, seven girls. During the year the receipts covered about half the expenditures, but this ratio is expected to improve with further operation. "But the value of the workshop to the workers and indirectly to the community cannot be measured in terms of finance. Through sympathetic discipline and application, and the sense of self-respect which comes from the consciousness of ability to earn, these two dozen boys and girls have been introduced to a larger life, satisfactory at once to themselves and to the community. To be a means of helping toward achieving the qualities and efficiency thus encouraged, is felt to be well worth all the expenditure involved alike in time, in work, and in money." This opinion is undoubtedly sound.

Employment Committee.—The industrial work of the society is supplemented by an employment committee, which meets weekly to deal with those cripples under its care who are seeking work. The committee has found from experience that it is especially easy for crippled boys and girls to drift into "blind-alley" occupations. After unsuccessful attempts to find employment, parents are apt to allow them to take any work that offers, and the result is often an occupation which gives a comparatively high starting wage, but has no tendency to develop the workers. It keeps them employed until they are too old to enter a skilled trade, and too often they ultimately become casual workers and loafers. The energies of the committee have thus been largely directed—and in many instances successfully—towards helping those who have had an unfortunate start of this kind to find work that will lead to something in the end, although the wage may at first be small. Some have had to be dissuaded from vain quests and advised to seek employment that was at least possible for them. Others, despairing and discouraged, have had to be urged on to keep searching for work. The efforts have been more than usually successful. At the end of a recent year the situation stood thus: About 73 per cent. of the boys of working age under the society's supervision were doing some work; 17 per cent. were unfit for practically any kind of work, and 10 per cent. were able to work, but were unemployed. The percentage of girls out of work was about the same, but the number of those unfit for work was greater. Among

those working, however, were a good number whose occupation was only partial, some for whom it was temporary or unsuitable, and others who were depending for help on the sale of products produced at home.

It only remains to say that there are always between six and seven hundred cripples under the care of this excellent society at any time.

The conclusions which have manifestly been drawn from experience in the work described are probably of practically universal application in industrial work for crippled children. There are a certain class of cripples who can make their way with the minimum of assistance under ordinary conditions of employment; and there is another class that is unemployable, that is, practically unfit for any work. But between these two classes is a third class of considerable numbers whose unsucces, as regards self-support and consequent self-respect, can be turned into success through the expedient of a shop philanthropically subsidized, offering special conditions of employment, adapted to the individual handicaps of the workers.

3505 Broadway.

TREATMENT OF GASTROENTERIC DISEASE OF INFANTS*

H. A. KILLION, M.D.
PORTAGEVILLE, MO.

In presenting a paper for discussion upon such an important subject I do so with much diffidence, knowing full well that nothing that is new will probably be brought out. The paper is necessarily somewhat textbook in character as I have had but little time to prepare a paper from my own knowledge and experience on the treatment of such an important disease.

Prophylaxis.—First we must have regard for the hygienic surroundings of children and all sanitary conditions. In the cities there should be cleaner streets and alleys, more parks; in the country the drinking water, stagnant pools and decayed material around the homes should be looked after in general. In the tenements and all institutions for infants there should be more air and sunlight, less crowding, and greater cleanliness, frequent bathing, proper care of napkins, etc.; in the summer months the napkins should be washed immediately after using, or thrown into a disinfectant solution in case the infants are suffering from diarrhea.

Foods and feeding.—Maternal nursing should always be encouraged by every possible means;

no weaning should be done in the summer months if it can be avoided. Nothing is better established than the close relationship existing between artificial feeding and diarrheal diseases. The important dangers to be emphasized in this connection are overfeeding, too frequent feeding, the use of improper foods, especially milk. Overfeeding is especially to be avoided during days of excessive heat. Give plenty of fresh, pure water and diminish each meal one-fourth the usual amount. Early and prompt attention should be given to all the milder derangements of the stomach and intestines.

Hygienic treatment.—Fresh air is of the utmost importance in all diarrheal cases in summer. Nothing is so depressing as close, stifling apartments. Children should be kept quiet and should not be allowed to walk; even if they should be old enough to walk they can be kept out in the fresh air in carriages, hammocks, etc. The clothing should be very light, and flannel if preferred. A single, loose garment is preferred, or linen or cotton may be put next to the skin if there is much perspiration. Bathing is helpful in allaying restlessness and also reduces the temperature. For this purpose a sponge bath of alcohol and water or vinegar and water is sufficient; for the reduction of temperature the tub bath only is to be relied upon; the temperature of the bath should be from 100 F. down to 85 F. used as often as the physician in charge may see fit.

Dietetic treatment.—It is to be remembered that during the early stage of the acute cases digestion is practically arrested and to give food at this time in large quantities can only do harm. In nursing infants the breast should be withheld as long as there is a disposition to vomit, and no food whatever given for at least 12 hours. Thirst may be allayed by giving whey, or barley or albumin water, and stimulants may be added to this if required. If these are refused or vomited, absolute rest to the stomach will do more than anything else to hasten recovery. After the stomach has been at rest for a period of about 24 hours, nourishment may be given, but with care; watch the diet and change it as seems best for the patient.

Medicinal Treatment.—It must be borne in mind that we are not treating an inflammation of the stomach or intestines, although such may be the ultimate result of the process. Our therapeutic measures are to be directed against the acute indigestion and the active putrefaction in the alimentary tract. The first step is to evacuate the stomach and the entire intestinal tract thoroughly. This is probably not necessary in every case since the initial vomiting has probably done this. If the vomitus

* Read before the New Madrid County Medical Society.

has been very sour, 5 to 10 gr. bicarbonate of soda may be given. To clear out the small intestines, give calomel and follow with castor-oil; irrigate the colon, as it hastens the action of the cathartic and removes much irritating and offensive material. A mild saline solution and a long rectal tube should be used.

The initial evacuation, the almost complete starvation for twenty-four hours, and careful feeding after that time are all the treatment that is necessary in most of these cases. Experience has shown me that certain drugs which have been classed as antiseptics are valuable, but they should be used empirically. Those which have been most useful in my experience are bismuth, calomel, salol and salicylate of soda, although the list might be very greatly extended.

Bismuth has the advantage that it rarely causes vomiting and that most of its preparations can be given in large doses. Of the newer preparations, the salicylate, subgallate and betanaphthol bismuth may be used. The subgallate is, I think, easily superior to the others. It may be given in from 2 to 4 gr. doses every two hours to a child of one year. Like the subnitrate, it is insoluble and is best given suspended in mucilage. The salicylate may be given in the same doses as the salicylate of soda. Watch the fever closely; use the sponge bath as needed, and give small doses of aconite and sweet spirits of niter if needed; look to the welfare of your patient and treat the symptoms as they arise. Try to keep the patient quiet and comfortable and use opiates with extreme caution.

LARGE URETHRAL CALCULUS; RUPTURE OF URETHRA; EXTENSIVE EXTRAVASATION OF URINE *

V. BERRY, M.D.
OKMULGEE, OKLA.

February 14 of this year I was called by Dr. J. A. Milroy of my city to see David D., bachelor, 56 years of age, farmer by occupation, living sixteen miles in the country. Aside from varicose ulcers of one leg he gave no personal history of importance aside from that bearing directly on his illness.

The patient stated that two days previous his urine ceased to flow except a slight dribble, and that his penis and scrotum and contiguous structures began to swell and that he suffered intense pain and constant desire to urinate. On examination we found the penis and scrotum enormously enlarged, both from inflammatory swelling and edema. The upper anterior surfaces of the thighs, groins and lower abdomen were edematous and the tissue inflamed. Urine was dribbling very slowly from the meatus, and the patient was suffering considerable pain. Pulse 100 and temperature 101. On attempting to

pass a silk catheter, complete obstruction was found about one and one-half inch from the meatus. It was plainly evident that a ruptured urethra existed, accompanied by extensive urinary extravasation. We elicited the fact that he had never had venereal infection of any kind, but claimed that twenty years previous, after lifting a very heavy object, on attempting to pass his urine he felt something lodge in the penis and that after suffering for some days from pain and slight urinary obstruction he gradually got better until finally his condition amounted simply to a discomfort, but that he could feel a distinct sore spot in the penis. After months, or years, a lump, easily felt, was found in the penis, which slowly enlarged until it assumed larger proportions. On my examination the penis was so enormously enlarged that the "lump," as he termed it, could hardly be felt. His symptoms, covering the previous two years, almost exactly simulated prostatic enlargement, such as frequent nocturnal urination, dribbling, foul-smelling urine, etc. The surroundings were so unpromising that after drawing off the urine through a suprapubic trocar puncture he was ordered taken to the hospital at Okmulgee, which was done next day (February 15), a distance of sixteen miles, in a spring wagon. Strange to say, he seemed not much worse than before the journey.

I would here mention that before his removal to the hospital, on my first visit a number of punctures, or stabs, were made to allow escape of extravasated urine, and on his arrival at the hospital these stabs were discharging large quantities of uriniferous pus. His pulse at this time was 105 and temperature 101.5, and mild delirium existed. The tongue was heavily coated and the breath was extremely foul. An external urethrotomy was done at once, under ether administered by Dr. Milroy (to whose kindness I am indebted for this case), and the large stone was removed from the pendulous portion of the urethra—about one and a half inches from the meatus. A silk catheter was easily passed into the bladder, and the bladder thoroughly irrigated. I must say that I have never seen a dirtier lot of pus and phosphatic urine come from an old prostatic; in fact it took longer to cleanse the bladder than to operate for removal of the stone. Other incisions were made in the infiltrated tissues, including the perineum; moist carbolyzed dressings were applied and the patient put to bed with an unfavorable prognosis. Mild delirium was continuous for about ten days, when the mind gradually cleared up. Large gangrenous sloughs came away from the drainage incisions on thighs, scrotum and abdomen, and the odor from the discharge was almost unbearable. Finally separation of the sloughs occurred, leaving clean granular surfaces which readily healed under oxide of zinc dressings. The urethrotomy wound healed in about five weeks, and aside from a slight hemorrhage on passing urine a few times, he has had no trouble.

He was discharged from the hospital March 22, or thirty-eight days from date of admission. His general health is greatly improved, though it is with some satisfaction I report even his recovery, for it is well understood the mortality is very high in extensive urinary extravasation, especially in the aged.

It is interesting to study the devious paths by which the urine can travel in a case of this kind, and it is of course true that if such a case could be operated immediately the mortality could be lowered by a large per cent., for sepsis is the big thing in such an accident. The stone weighed 406 grains.

* Read at the Fourteenth Annual Meeting Frisco System Medical Association, Springfield, May 24-25, 1915.

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OF THE

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Address all Communications to 3517 Pine Street, St. Louis, Mo.

FEBRUARY, 1916

EDITORIALS

REMOVAL OF SECRETARY AND JOURNAL OFFICE

The general offices of the Association have been moved from 3525 Pine Street to 3517 Pine Street, St. Louis. All communications should be addressed to the new number.

THE ABORTIONIST

Human society is foundationed on certain basic laws uniform and universal in their application. Chief of these is the law, born with the creation of man, "Thou shalt not kill." The pages of history are filled with accounts of the dire results which invariably follow every violation of this mandate. Instinctively we shrink from the man whose hands are stained with his fellow's blood and we forgive every crime more readily than that of murder.

Savage tribes as well as the most enlightened people have assigned against it the most severe form of punishment an outraged community can inflict on one of its members. The preservation of the race demands that human life shall be safeguarded no matter what the cost. The medical profession has been entrusted in a particular way with the guardianship of this law and punishment for its violation cannot be drastic enough when a physician places the brand of Cain on his own forehead.

The public is prone to point its accusing finger at our profession as a whole because of the dereliction of some of our individual members, forgetting that from the beginnings of primitive religion there have been found priests who were faithless to their altar fires, forgetting that there never has been a time in history that did not record leaders who decoyed their faithful followers into gold-lined death traps and statesmen who were willing to sell their trusting people to the highest bidder. "*Errare humanum est*" is written over the gate of every field where human tillers toil, so it is not to be wondered at that medicine, too, has often wept and hung her head because of the faithlessness of those whom she has honored with her trust.

The St. Louis Medical Society recently expelled an abortionist. The state of Missouri revoked his license. The wrongs he did to those as yet unborn were righted as well as human hands can ever repair an insult to an outraged God.

The example set by one of our county societies in sending this man forth as one unclean and unfit to associate with his fellow workers, after the criminal courts of the state had refused to prosecute him, is a source of congratulation to our Association. It proves that we are sincere when we announce to the public that one of its greatest benefactors is organized medicine, and that the stamp of approval or disapproval placed by our body on any physician in the state can be depended on as a just measure of his trustworthiness.

RURAL SANITATION

All those who are interested in the health of the nation must have observed with great pleasure and satisfaction the broadening of the scope of the work done by the U. S. Public Health Service. One of the most recent extensions of this work relates to rural sanitation and it is perhaps not going too far to say that in no direction can money be better spent or more tangible results be obtained. Our city population is, as a rule, well taken care of by local boards of health, but by far the greater part of our rural population is without any special care.

The work of the Service so far has been confined to nine counties located in eight different states, the selection being made largely on account of the facilities offered in the counties visited. The plan of work is for the purposes of investigation and education. Homes of the people are visited and the sanitary condition of the premises is discussed with the owner, the visitor pointing out deficiencies and distributing appropriate health literature. Many of these homes are revisited in order to ascertain progress and to encourage further improvement. Illustrated public lectures on sanitation are given as frequently as possible. Efforts are made to encourage the local physicians, clergymen, teachers and newspaper men and prominent citizens to give their aid and encouragement to the work. When organizations exist they are encouraged to support the work, and efforts are made to form new organizations having the advancement of the public health as their object. Schools, churches, railroad stations, postoffices and stores are inspected.

Work along these lines was completed in 1914 in four different counties, and 13,904 homes in rural districts were canvassed and surveyed, while 6,302 homes in incorporated towns were visited, a total of 20,206. More than one visit

was made to 3,000 homes and 156 public meetings were held. In Berkeley County, W. Va., from April 1 to Nov. 1, 1913, there were 249 cases of typhoid fever; the same period in 1914 showed only forty cases. In Lawrence County, Ind., from June 1 to Nov. 1, 1913, there were fourteen deaths from typhoid fever; in the corresponding period in 1914 only two were reported. In Dorchester County, Md., twenty deaths from typhoid fever were reported in the last four months of 1913, against only three in the corresponding period of 1914.

Summing up, these figures in three counties mean that forty-six lives were saved from typhoid fever alone as the result of this survey. Estimating the value of the lives lost at \$5,000 each means that in these three counties \$230,000 was saved in the community. The cost of this work was approximately only \$16,000. Surely that is an investment which returned astonishing dividends. Would it not be a grand thing if instead of nine counties in the entire United States being worked over we could have 9,000 surveyed each year?

In public health matters our knowledge has outrun our understanding. We know much more than we have the means to apply or than the people generally understand. In no way can this knowledge be brought to them as effectively as through this house-to-house canvass, aided by illustrated lectures and public meetings.

Unfortunately, this work has been discontinued owing to lack of funds, but an urgent deficiency bill is at present before Congress, introduced by the secretary of the treasury, to support the work of the Public Health Service. Every member is requested to write at once to his congressman and urge not only the passage of this deficiency bill, but also liberal appropriations in the future for this public health work, and urge his friends to bring all influence possible to bear upon congressmen for the accomplishment of this purpose. Missouri will profit by the appropriation.

We need to realize that public health is within certain limits a purchasable commodity. Let us be as liberal in looking after human health as we are in caring for the health of our farm animals and our farm crops. Let us paraphrase the biblical quotation and say, "Are ye not of more value than many hogs?"

Congressman W. P. Borland of Kansas City is a member of the committee having the bill in consideration, so the Jackson County Medical Society adopted the following resolutions:

WHEREAS, The Secretary of the Treasury has introduced in Congress an urgent deficiency bill for \$100,000 for the Public Health Service; and

WHEREAS, The activities of the Public Health Service are seriously crippled for the lack of funds, in particular rural sanitation work having been abandoned; and

WHEREAS, The life-saving possibilities of instruction in rural sanitation have been repeatedly demonstrated in the work of the Service, and

WHEREAS, Discontinuance of this work will be detrimental to the health of the people of Missouri and of the nation; therefore be it

Resolved, That the Jackson County Medical Society regrets the interruption of the work in rural sanitation by the Public Health Service, even temporarily, as an unfortunate stoppage of educating rural communities in health protection and therefore hurtful to the health interests of the entire population; and be it further

Resolved, That this Society hereby petitions our honorable representative, Mr. W. P. Borland, to support the urgent deficiency bill and use every proper means to obtain its passage; and be it further

Resolved, That a copy of this resolution be sent to Mr. Borland and to THE JOURNAL for publication.

BABY WEEK

The General Federation of Women's Clubs has planned a nation-wide baby-week campaign from March 4 to 11. The movement has the endorsement and cooperation of the Children's Bureau of the United States government and the cooperation of the state medical associations is being sought by the women's clubs. The Missouri Federation of Women's Clubs has requested our Association to support the movement and contribute to its success through the cooperation of the county societies. Our Committee on Health and Public Instruction has heartily endorsed the plan and sent a letter to the secretaries of the county societies in those counties where the Federation of Women's Clubs has branches.

This sort of cooperative activity is productive of far-reaching influence in the spread of knowledge concerning the proper care of babies. Our members are requested to give their earnest support to the movement.

Public health week campaigns have been held in many of the large cities during the past two years. We quote from a pamphlet prepared by Julia C. Lathrop, chief of the Children's Bureau, and issued by the government: "The baby-week campaigns, which have been held in many cities, are primarily educational; their purpose is twofold: first, to give to the parents of a community the opportunity of learning the facts with regard to the care of their babies; second, to make known to a community the importance of its babies, the special facts relating to the babies of the community and the need of permanent work for their welfare. These purposes it carries out in various ways—by newspaper and advertising publicity, by meetings and entertainments, and by such activities as a program of daily events, an infant-welfare exhibit, a baby health conference, plays, etc. In addition, there has been included in

some cities the third purpose of gathering funds for infant-welfare work. The first Baby Week, which was held in Chicago in April, 1914, was of this type; also that of Grand Rapids, Mich., in 1915."

Our members can enhance the value and lasting good of such an undertaking by delivering lectures on the various phases of hygiene, sanitation and preventive medicine as they affect child life.

MEDICAL INSPECTION AND THE PAROCHIAL SCHOOLS

On the heels of a threatened suit the purpose of which is to abolish the Department of Hygiene of the St. Louis public schools, it is very gratifying to note the announcement that those in authority over the Catholic parochial schools of St. Louis are about to establish systematic medical inspection as part of the scheme of management of their institutions.

An examination of the records of those back of the movement against the school board is interesting. The attorney announced as instructed to file the restraining suit was recently associated with the physician so instructing him in successfully defeating the Department of Justice of the United States in its efforts to punish an advertising doctor of St. Louis on a charge of using the mails in a scheme to defraud. One of the other parties to the suit was recently expelled from the St. Louis Medical Society after standing trial on a charge of offering to split fees for surgical work referred to him. The man filing suit has kept up a persistent fight against compulsory vaccination in the public schools, being defeated in a suit he brought to restrain the school board from enforcing this rule, a rule to which no right-thinking or well-informed layman, much less even a poorly informed doctor, could honestly file objection.

We have no doubt about the outcome of the suit. The school board will have no difficulty in establishing the fact that systematic medical inspection of schoolchildren recruited from all walks of life is as necessary as any other part of their mental or physical training.

Complaint is made by those opposed to the system that this inspection costs money. The man who counts his dollars before he counts the heart throbs of the helpless little ones placed in his keeping is so low that words cannot be found fitly to describe him. It is bad enough when bakers use the argument of cost against a bread-wrapping ordinance that will prevent the filth of the streets from finding its way to our tables. It is bad enough when lodging-house keepers use it against the passage of health conserving and live-saving regulations by a

municipal assembly. It is bad enough when real estate agents use it against the abolishment of disease-spreading vaults and insanitary plumbing appliances. But when a doctor objects to making useful citizens out of defective children, when he objects to keeping down disease among the little children of the slums, when he objects to giving a square deal to those born in poverty and ignorance and wretchedness because it costs money, then indeed do we believe the bottom rung of the ladder of infamy has been reached by human feet.

We congratulate the parochial schools of St. Louis for this latest proof of their progressive spirit and we wish for the school board of St. Louis as little trouble, annoyance and wasted time as is required to defeat the worst enemies of schoolchildren discovered since Charles Dickens washed the windows of Dotheboys Hall and permitted a horrified public to gaze on the malevolent Mrs. Squeers as she poured brimstone and treacle down the parched throats of the gaunt, hungry, defective pupils of her one-eyed husband.

A TRIBUTE TO KENNETH WILLIAM MILLICAN, M.D.

"For he is dead and we must yearn therefore."

No formal obituary notice or eulogium will now be attempted respecting the late Dr. Millican, for that has been well done elsewhere and otherwise; therefore, only a brief estimate of personal worth and professional character and work will be offered as opportunity revealed these to his fellows during his sojourn in this part of the country as a scientific writer, medical journalist and personal acquaintance and friend.

It is told of one of the earlier English men of letters that while walking the streets of London with a friend he paused and, pointing across the way to a passing individual, said with emphasis: "I don't know that man, but I hate him." The friend asked why he should hate a man whom he did not know and the answer was: "That is just the reason; I hate him because I don't know him." Many sons of Britain, consciously or unconsciously, exhibit personal traits, mannerisms or peculiarities which tend to create prejudices or dislikes among other peoples, and which may be overcome with no little difficulty, but no criticism of this kind could be directed in any particular toward the character or conduct of the subject of this sketch. Dr. Millican was truly cosmopolitan in every respect, quite free from the too common insular prejudices of his countrymen, but with no yielding of proper national feeling or patriotic instinct.

His grasp of principles and subjects, that were of importance to mankind and the medical profession was catholic in compass and convincing in expression, and the state of Missouri and city of St. Louis are enjoying the fruits of changed conditions and bettered services, toward the realization of which some of his best editorial work when here was directed.

During the years prior to 1907, when the *St. Louis Weekly Medical Review* was conducted by him, some of the subjects of vital concern in which the local profession was deeply interested were: (1) the medical inspection of public school children by official authority; (2) the establishment by state and city of sanatoriums for tuberculous persons, and (3) a fundamental reform of the public hospitals system in St. Louis to meet modern needs and conditions; and some of the most forceful arguments and telling appeals in advocacy of these several causes came, week by week, from the pen of Dr. Millican. The finely united front shown at that time by the medical profession in support of these proposals was measurably due to his effective work, and this in turn was reflected by the public demand for the legislation necessary to accomplish the ends proposed.

The good seed thus ably sown was not lost, but has borne an abundant harvest, for all of these leading reforms have been achieved; and, although his name may not always be mentioned in connection with these invaluable public services, his work will live and approve itself in benefits to generations yet unborn, and he will thus have achieved immortal life in the sense of multiplying continuing blessings to his fellowmen.

It would appear almost irrational to hold that the course of such a life has been halted by bodily dissolution, for the example and power of his work were such that its influence must ever abide, and this thought must prove a source of comfort to those who cannot but feel the loss to the world of one who seemed still so rich in every gift and quality that could give added value to lengthened services and fullness of years. High in mind, choice in spirit, serene in strength his works declare his worth; even here on the banks of the Father of Waters he has left a record that will be gratefully remembered as one who served his fellowmen with faithful zeal, and whose merit won and held the esteem and affection of all who truly knew him; and this was fully testified to by the local profession on the occasion of his public leave-taking when departing for another field of usefulness.

There is no death—what seems so is transition!

This life of mortal breath,
Doth but foreshow the fields Elysian
Whose gateway men call death.

—George Homan.

NEW BUILDINGS FOR STATE SANATORIUM

Two new buildings for the State Sanatorium at Mt. Vernon are under roof and will be rapidly pushed to completion, one the children's building. They will have a capacity of 100 patients. The children's building will contain a schoolroom on the top floor, a play room in the half basement and other facilities for the care and entertainment of the young patients. There are now fifty children at the institution, and it has been found that they respond to treatment more readily than any other patients.

Through an act of the last legislature the sanatorium has been enriched by the donation of all the furniture used in the Missouri Building at the Panama-Pacific Exposition. Its original cost was \$8,000. There were two carloads and all of it is well adapted for use in the sanatorium.

OBITUARY

MEREDITH D. JONES, M.D.

Dr. Meredith D. Jones, St. Louis, a graduate of Jefferson Medical College, Philadelphia, 1870, died from heart disease at Chambersburg, Pa., Jan. 11, 1916, aged 65. He was a member of the St. Louis Medical Society and the Missouri State Medical Association and had practiced medicine in St. Louis since 1884.

DR. JOHN ASHLEY

Dr. John Ashley of Bloomfield, died at his home Jan. 3, 1916, after suffering for several years from cancer of the rectum. Previous to taking up medicine Dr. Ashley was a minister in the Methodist Episcopal Church and served for two years as pastor of the Madison Avenue M. E. Church at Lebanon, Mo. He was a member of the Butler-Stoddard County Medical Society.

ROBERT EMMET AUSTIN, M.D.

Dr. R. E. Austin, born in Carrollton, Mo., June, 1872, graduated from Missouri Medical College, St. Louis, 1897; a former member of the Missouri State Medical Association, Fellow of the American Medical Association, American Roentgen-Ray Association, Military Surgeons of the U. S. Army, and California State Medical Association; surgeon of the Tenth United States Cavalry during the Spanish-American War with four years' service in Cuba; surgeon to the Spanish-American War Veterans; first lieutenant in the Medical Reserve Corps; for nine

years a resident and roentgenologist of San Diego, Calif., and once president of the San Diego Medical Society and president of the City Board of Health, died at his home in San Diego, November 13, from septicemia.

WELLINGTON S. HOPKINS, M.D.

Dr. W. S. Hopkins, a graduate of the Missouri Medical College, 1886, died from pneumonia in the Springfield hospital, Jan. 12, 1916, aged 53. His death was not unexpected, as his condition had been serious for several days.

Dr. Hopkins was born and reared in Fair Play, Mo., and after his graduation in medicine located in Fair Play, where he practiced his chosen profession for nineteen years. He moved from Fair Play to Bolivar, where he practiced seven years before locating in Springfield in 1911. He became one of Springfield's most respected citizens and ranked high among the medical profession. At the time of his death he was president of the Greene County Medical Society and had been a member of the Missouri State Medical Association for many years. He was also a member of St. John's Commandery and of the Abou Ben-Adhem Temple of Shriners.

NEWS NOTES

DRS. J. H. and U. S. G. HUGHES, Kansas City, have been arrested charged with selling narcotic drugs to habitués.

DR. H. C. CULLERS of Spickard has returned from New York, where he took a course in postgraduate work.

DR. W. C. STONE, Springfield, has been appointed pathologist and bacteriologist at the Springfield Hospital.

DR. WILLIAM W. GRAVES, St. Louis, while skating on one of the lakes fell and fractured an arm. He is reported making rapid recovery.

DR. J. SHELTON HORSLEY, Richmond, Va., was the guest of the St. Louis Medical Society, January 22, and read a paper on "Blood-Vessel Surgery."

DR. W. D. FULKERSON, Trenton, has been confined to his home with a severe attack of erysipelas, but is better now and will be out in a short time.

DR. A. H. CLEVELAND, St. Louis, was the guest of the Miller County Medical Society at Eldon, December 16. He read a paper on "Serum Therapy."

DR. C. C. CONOVER, Kansas City, attended the November meeting of the Clinton County Medical Society at Lathrop and demonstrated a number of cases of heart and lung diseases.

DR. FRED T. MURPHY, St. Louis, professor of surgery in the Washington University Medical School, has joined the American Ambulance in Neuilly, France. He will return about May 1.

THE Missouri Society for the relief and control of tuberculosis has the cooperation of the rural schoolteachers in Daviess County. The children will distribute literature to the families.

DR. W. E. ELMER, St. Louis, gave a clinical demonstration of a number of cases of diseases of the heart and lungs at the regular meeting of the Randolph County Medical Society at Moberly.

THE wife of Dr. William Harrison, Marshall, died December 15. Mrs. Harrison was a daughter of the late Col. Vincent Marmaduke and granddaughter of former Governor M. M. Marmaduke.

TUBERCULOSIS Sunday was observed by the churches in Joplin and Jasper County, December 25. All the ministers devoted a part of the services to a brief lecture outlined by the Jasper Anti-Tuberculosis Society.

DR. J. A. ASHER, Trenton, was called to Chicago recently to see his son, Graham, who is a student at Rush Medical College, and who was quite ill with appendicitis. He was operated on and made a nice recovery.

THE board of control of the Jasper County Tuberculosis Sanatorium recently held a meeting to select a site for the building. Two sites are under consideration, one near Joplin and the other near Webb City.

DR. R. E. CASTELAW, Kansas City, secretary of the Jackson County Medical Society and former superintendent of the General (Municipal) Hospital, has been appointed superintendent of the new Wesley Hospital, just completed.

S. C. YOUNG, a chiropractor at Cape Girardeau, was fined \$50 for practicing medicine without a license, January 17. The deposition of a licensed practitioner now deceased was read in court stating that Young was working for the physician.

GRUNDY County Medical Society has secured quarters in the board of directors' room of the Trenton Trust Co. for their regular meetings. The members are very proud of their new meeting place, as it is steam heated, electric lighted and altogether very attractive.

DR. G. WILSE ROBINSON and DR. R. H. MEADE, Kansas City, were guests of the Lafayette County Medical Society at Higginsville, December 14. Dr. Robinson read a paper on "Dementia Praecox" and Dr. Meade read a paper on "Diagnosis of Appendicitis."

NINETY thousand men and women classed as cooks, waiters and food handlers in hotels, restaurants, cafés and markets of New York City must obtain certificates from the board of health showing that they are free from communicable diseases. This kind of protection from disease will eventually be in force in all large cities.

DR. BROUGHTON's Sanitarium at Rockford, Ill., will henceforth be known as Dr. Weirick's Sanitarium. The management of the institution remains the same as that which has been conducting it since the time of Dr. Broughton's death, the new superintendent, Dr. G. A. Weirick having been connected with the institution for the past five years. He is assisted by Dr. W. H. Cunningham.

THE residence of Dr. C. A. Lusk, Butler, formerly secretary of the Bates County Medical Society, was destroyed by fire, December 2. The building was a two-story structure and had been regarded as one of the best country homes in the county. While the doctor with the assistance of neighbors saved most of his furniture, instruments and library, the loss was about \$3,000, with only partial insurance.

DR. DAVID R. HILL, commissioner of health of Joplin, has consented to stand for reelection under the commission form of government which Joplin adopted a year ago. Dr. Hill has shown splendid ability as an executive during the period of his incumbency. His annual report recently submitted showed the greatest accomplishment in the interests of better health conditions than has ever been observed in Joplin in the past.

THE Health Department of St. Louis is urging the board of aldermen to establish a bureau or section of the health board with power to remove ice and snow and cut weeds and charge the cost against property owners. Some real estate men oppose the proposition on the ground that it would work a hardship on some property owners, and they suggest that the city should do the work at the expense of the general revenue.

DR. JULIUS ROTTER, formerly of Parsons, Kan., was recently convicted of wife abandonment in St. Louis and sentenced to six months in the workhouse. The publicity given the

occurrence has caused Dr. Julius Charles Rotter, St. Louis, considerable embarrassment on account of the similarity of names. Dr. Julius Charles Rotter is a member of the St. Louis Medical Society and in no way related to the convicted man.

DR. JAMES R. SMITH, Warsaw, secretary of Benton County Medical Society, was so unfortunate as to lose his office and contents during a fire December 23. Unfortunately no insurance had been placed on the doctor's possessions, and he is now sorely in need of office furniture, operating table and cases. If any of our members should have an operating table or an instrument case which he is about to discard it would be greatly appreciated and of much service to our unfortunate fellow member.

SUIT against the board of education of St. Louis has been filed in the circuit court by several citizens, among them three physicians, one of whom was recently expelled from membership in the St. Louis Medical Society. The instigators of the suit are seeking to restrain the board of education from using the school funds to maintain the department of hygiene which conducts the medical examination of schoolchildren. The petition alleges such use of the school funds is not sanctioned by law.

SEVERAL members of the Greene County Medical Society are aspirants for the office of health commissioner in Springfield under the commission form of government which will become effective in that city early this year. Dr. E. F. James is present health commissioner and has not announced his candidacy for the office under the new form of government. Dr. J. M. Potts, the present city physician, has yielded to the urgent requests of friends and announced his candidacy for the office. Others seeking the position are Drs. H. T. Evans, C. E. Woody and W. L. Pursselly.

MEMBERSHIP CHANGES, JANUARY

NEW MEMBERS

Joseph G. Beaty, Huntingdale, R.D., Clinton.
John A. Best, High Hill.
J. C. Caldwell, Laclede.
James M. Foreman, Jonesburg.
Milton J. Freeman, Wayland.
Christiana V. Hammler, Union.
Lafayette L. Henson, Pittsburg, Kan.
E. A. Hudson, Wellsville.
Wm. J. Mairs, Newton.
Arthur Poe, Fruitland.

M. H. Shelby, Charleston.
James T. Simpson, Holden.
Robert B. Watts, Wellington.
Ursa C. Weston, Osgood.

CHANGES OF ADDRESS

Samuel T. Bassett, 1401 Goodfellow, to 5988 Cates, St. Louis.

W. O. Culpepper, West Plains, to Willow Springs.

Dexter B. Farnsworth, Woodruff Building, to 9383 E. Elm St., Springfield.

George E. Farr, Gordon, Neb., to Leonard, Mo.

W. J. Ferguson, 321 S. Ohio St., to Odd Fellows Bldg., Sedalia.

John Dawson Hayward, 5092 Kensington, to 1385 Belt Ave., St. Louis.

S. C. Harbour, 1520 Marcus Ave., to Metropolitan Building, St. Louis.

Asa H. Heaton, 115 E. Fourth St., to 412 S. Ohio St., Sedalia.

Elmo M. LaCompte, West Eminence, to Willow Springs.

Clive S. McGinnis, Houston, Texas, to M. K. T. Hospital, Sedalia, Mo.

James A. Peyton, Macon, to Excello.

James T. Redwine, Poplar Bluff, to Kennett.

D. G. Seibert, St. Louis, to Jackson.

George D. Wells, Marshfield, to Stafford.

Wm. M. Wheeler, 828 W. 6th St., to 412 S. Ohio St., Sedalia.

REINSTATED

J. K. Graham, St. Joseph.

RESIGNED

James H. Hume, Avalon.

Martha Short, Rolla.

William R. Simpson, Chillicothe.

Byron N. Stevens, Chillicothe.

DROPPED

Thomas S. Bishop, Springfield.

Eli T. Brand, St. Louis.

William J. Calvert, Dallas, Texas.

John D. Fakes, Fisher, Ark.

Horatio S. Jones, Kansas City.

Nettie McColl, St. Joseph.

A. M. Murphy, Whitewater.

R. W. Paris, Muskogee, Okla.

O. H. Ridings, Meadville.

Jesse C. Ross, Melvin, Iowa.

Clifford E. Sanders, St. Louis.

James T. Staney, St. Joseph.

Leonard P. Woodworth, Little Rock, Ark.

TRANSFERRED

Hugo E. Nelson, Sharon Springs, Kan., transferred to Kan. Med. Society.

Joseph H. Peck, Gunnison, Utah, transferred to Utah Med. Society.

EXPELLED

H. L. Fichtenkam, St. Louis.

DECEASED

John Ashley, Bloomfield.

W. S. Hopkins, Springfield.

Meredith D. Jones, St. Louis.

MISCELLANY

A DUEL WITH GERMS

It will not be easy for us to maintain a strict neutrality if the germ duel between Health Commissioner Robertson of Chicago and Dr. Charles Fischer of that city is fought. We became an advocate of Dr. Robertson's street cars without windows for the accommodation of fresh-air enthusiasts, and rejoiced when the Chicago elevated lines put such cars into operation early in December, though becoming, at the same time, a prophet of the failure of that fine idea. Close observation had convinced us of the fact that the loudest and most insistent of such enthusiasts prefer sitting in cold drafts to sitting in a cold-air bath, and would shrink from the ordeal on finding themselves up against it.

They shrank from it so speedily that the railway lines soon took off the wide-open cars. Now the health commissioner finds himself in a controversy with Dr. Fischer, who jibes him on the failure of the wide-open cars through want of patronage by those who had been loudest in demanding them. This is so unfair that our neutrality is not easily preserved. The controversy appears to have arisen out of opposing views about bathing. Dr. Fischer insists that there can be no right bathing without the use of soap. Robert G. Ingersoll insisted there can be no real baptism without soap. This being a Chicago controversy we prefer citing as a higher authority than Ingersoll that eminent Chicagoan, "Bath House" John Coughlin, who, in denouncing an adversary he had caught in a Turkish bath, told a crowd of his constituents: "That lad was just as clean as any of us before the corporations got him. A bath with soap every Saturday night was enough for him then, but now he's so dirty the dirt has to be sweat and thumped out of him every morning. For myself, I stick to the old Saturday night bar of yellow soap. It keeps me clean."

This is as far as we can go with Dr. Fischer, unless his charge that "Robertson would not know the difference between a staphylococcus and an elephant" may afford a tip to the St. Louis Efficiency Commission in future examinations. Beyond that, our sympathy is openly with Dr. Robertson, who has been challenged by his calumniator to a duel, to be fought with germs. While we are far from approving the duel, some means must be found to terminate the interminable controversies between medical and other experts.—St. Louis *Globe-Democrat*.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL, 1916

(UNDER THIS HEAD WE LIST THE SOCIETIES WHICH HAVE PAID THE STATE ASSESSMENT FOR ALL THEIR MEMBERS)

Webster County Medical Society, Dec. 15, 1915.
Benton County Medical Society, Dec. 16, 1915.
Cape Girardeau County Medical Society, Dec. 19, 1915.

Schuyler County Medical Society, Dec. 22, 1915.
Atchison County Medical Society, Dec. 27, 1915.
Clark County Medical Society, Jan. 1, 1916.
Madison County Medical Society, Jan. 10, 1916.
Clinton County Medical Society, Jan. 11, 1916.
Sullivan County Medical Society, Jan. 17, 1916.
Phelps County Medical Society, Jan. 17, 1916.
Camden County Medical Society, Jan. 18, 1916.

PROCEEDINGS OF THE WASHINGTON UNIVERSITY MEDICAL SOCIETY

Twentieth Meeting, March 8, 1915

1. RESULTS IN A CASE OF ACROMEGALY FOLLOWING SELLAR DECOMPRESSION.—By DR. W. E. SAUER.

The case was that of a typical acromegalic, 32 years of age, who had been unable to follow his occupation as a coal miner for more than a year owing to a constant frontal headache, cardiac distress and general weakness. There was also a gradual loss of vision, especially in the left eye. Ophthalmoscopic examination revealed slight optic atrophy; vision in left eye 15/200, right eye 15/12. Radiograph showed an unusually large sella turcica. A sellar decompression was done on Nov. 29, 1912, under cocain anesthesia, according to the Hirsch method. Marked improvement of the general as well as the neighborhood symptoms followed. The most striking improvement was the vision in the left eye which increased to 15/30. The headache and cardiac distress disappeared and the patient has been able to work as a laborer for the past two years without any discomfort; there has been no recurrence of his former symptoms.

2. PROGRESSIVE OSSIFYING MYOSITIS.—By DR. EUGENE L. OPIE.

The name progressive ossifying myositis was first applied by Muenchmeyer to a disease usually beginning in childhood and characterized by the progressive replacement of voluntary muscles by bone. The muscles of the back and of the extremities are most frequently affected. Helferich first described congenitally short and symmetrically deformed great toes (microdactylie) in association with the disease and in thirty-three to forty-four cases subsequently described a similar anomaly has been observed. The specimen presented was obtained through the kindness of Dr. R. L. Moodie. The patient was 70 years of age. The skeleton shows ossification of the internal and external pterygoid muscles on the right side bringing about complete ankylosis of the lower jaw. At site of the attachment of ligaments throughout the skeleton there are bony projections. Numerous spicules of bone project into the interosseous membrane between the tibia and fibula. There are three bony junctions between adjacent ribs. All the bones are light and porous. Examination of the great toe on the left side shows that the anomaly observed in other instances of progressive ossifying myositis is present. The first phalanx of the great toe is

firmly ankylosed to the metatarsal bone and is directed obliquely upward. It terminates in a knob which apparently represents the second phalanx; the end of this bone is at the level of the first interphalangeal joint. The distal half of the metatarsal bone of the great toe on the right side is the site of ossifying periostitis. The end of the bone is lost and from its appearance it is not improbable that an amputation had been performed.

3. HYPERPLASTIC SPHENOIDITIS.—By DR. GREENFIELD SLUDER.

(This paper was set for March 8, but its presentation was postponed until the meeting of March 14.)

At the meeting of March 14 Dr. Greenfield Sluder presented "Hyperplastic Sphenoiditis, and its Clinical Relations to the Second, Third, Fourth, Sixth and Vidian Nerves and the Nasal Ganglion." He spoke of the body of the sphenoid independent of what cell occupied it and mentioned the close relations of the above enumerated nerve trunks to its bony wall, and that the size of the cavernous sinus rather than that of the sphenoid cell was what determined some of those relationships. He spoke of the striking difference, clinically, between the nerves in the canals, i.e., second, mandibular branch of the fifth and Vidian, compared to the third, fourth and sixth, which run through the wide gap of the sphenoid fissure: the former being a clinical question infinitely more often than the latter. The bone diagnosis was made by Dr. Jonathan Wright from bone removed from the anterior part of the sphenoid sinus of 156 cases. His microscopic findings corresponded almost uniformly with the cases clinically. The slow growing bone increase had for its clinical history long-standing pain and often very slow loss of vision, sometimes only a segment of the optic nerve being involved; the cases of violent headache and rapid loss of vision showing acute ostitis. Only rarely did the bone show periostitis and sometimes the mucous membrane was normal. The argument was that the clinical picture in the chronic cases arose from narrowing of the bony canals in the process of the hyperplastic bone changes and that the optic nerve was thereby compressed in the optic canal, producing disc swelling with loss of vision: that the recurrent pain in the second division of the fifth and Vidian, identical with "migraine," was also explained by narrowing of their confines in conjunction with slight local inflammatory changes or systemic changes which gave rise to congestion. In many of the cases these headaches preceded the optic nerve troubles by many years. He attempted to explain this on the score of drainage, the lower part of the sinus with the mandibular and Vidian nerves usually being bathed in a small amount of thin secretion, whereas the optic in the upper part was not so. He thought the hyperplastic lesion rendered the district more vulnerable and cited that small areas here become inflamed, from unrecognizable causes, and according to their position were disastrous; in the upper outer anterior aspect of the sinus, loss of vision occurred and in the lower outer and lower middle parts great pain of maxillary and Vidian distribution, respectively, followed. (Intrasphenoidal observation by means of Holmes' Nasopharyngoscope.) He raised the question, "How could lesions of this kind be bettered by removal of bone for drainage? He did not believe that the primary bloodletting of the surgery explained it and cited a case in argument thereof. He cited that a similar lesion in the anterior nose where very easily visible was subject to recurrences of longer or shorter duration, and that the condition was apparently helped by judicious surgery, and that the degree of hyperplasia of the plica septi seemed to be an index of the hyperplastic process in

the sphenoid, whereas the degree of hyperplasia of the posterior tip of the middle turbinate seemed an index of a similar condition in the postethmoid. He thought that the recession of "migraine" after the forty-fifth year was possibly explicable by the fact that in the declining years bone resorption took place as evidenced by dehiscences. He mentioned that in an observation of some cases for fifteen years those showing least hyperplastic change also showed least change in the general bony skull. He urged careful differentiation of pain of pure nasal ganglion origin from similar pain which had a hyperplastic sphenoiditis underlying it.

4.—CEREBELLAR LOCALIZATION.—By DR. LOUIS K. GUGGENHEIM.

Vestibular nystagmus is characterized by the presence of two components, a slow and a rapid. The slow component is the result of vestibular innervation of the abducens and oculomotor nuclei: the rapid component according to Bárány is caused by an explosion of tonus energy in one of the supra-nuclear centers.

Every fiber of the vestibular nerve before entering Deiter's nucleus gives a collateral to the cerebellum. Through these collaterals we get certain reaction movements (falling and errors in pointing). These movements normally accompany vestibular nystagmus and are in the direction of the slow component.

There are two tonus centers in each half of the vermis from which we get the falling reaction.

Through observations made after operations on the cerebellum and through the use of the Trendelenburg experiment (cooling experiment), Bárány has localized the following cerebellar cortical centers:

Wrist, arm and hip centers for control of movement inward—lobus biventer.

Arm center controlling movement outward—lobus semilunaris inferior and superior, five cm. posterior to auricle.

Arm center for control of downward movement—posterior portion of the lobus semilunaris superior and inferior.

When the function of one of these centers is interfered with through an involvement of the cerebellar cortex there results a spontaneous pointing error and loss of vestibular-cerebellar reaction. Spontaneous pointing error without loss of reaction means paresis of the cerebellar center usually due to pressure from elsewhere.

The pointing error is on the side of the involvement.

Vestibular innervation of the cerebellum passes through the medulla to the moss fibers in the cerebellum. From the moss fibers the wave passes to the cells of the granular layer, then to the parallel fibers, and finally to the Purkinje cells. The spinal-cerebellar or kinesthetic innervation wave ends also in the moss fibers.

The pointing reflex is different from other reflexes in that a voluntary innervation of the part is necessary before the reflex can manifest itself. This voluntary innervation passes from the cerebral cortex through collaterals from the pyramidal fibers to the pons. From the pons fibers pass to the opposite side into the cerebellum to end as climbing fibers around the Purkinje cells.

From the Purkinje cells the reflex wave passes out through the axis cylinders to the dentate nucleus. From the dentate nucleus the wave passes to the opposite side to the red nucleus. From the red nucleus the wave probably passes either to the cerebral cortex and then down to the cord or directly from the red nucleus through the rubra-spinal or reflex fibers of Monakow to the cord. Other descending cerebellar tracts have been described and it is possible that one of these conducts the reflex wave.

Twenty-First Meeting, April 12, 1915

1. A CASE OF OCCUPATION NEURITIS.—By DR. SIDNEY I. SCHWAB AND DR. ERNEST SACHS

The patient, a carpenter, was affected with a paralysis of the short, intrinsic muscles of the little and fourth fingers due to pressure from a peculiar form of plane known as a rabbit plane.

A dissection of the hand was presented at the time showing how pressure from the knob on the plane was exerted directly at the point where the deep branch of the ulnar entered the muscles of the hypothenar eminence. Rest brought about a complete recovery.

2. A CASE OF OSTEOGENESIS IMPERFECTA.—By DR. C. A. STONE.

E. K., aged 3 months. Family history good. Parents not related. Normal pregnancy and delivery at full term. This is the first child. No miscarriages. Nurses the baby. No history of syphilis.

The baby was at first not very active and screamed when handled. Moved arms little and legs not at all. Later began to move arms more vigorously and still later the right leg, but has been moving the left leg a little for only about a week. Cries yet when handled. Both feet were crooked at birth. Child is quite bright.

Physical Examination.—Very small baby. Much long hair on head and a quantity of downy hair on arms, legs and back, especially over sacrum. Eyes protrude slightly, sclerotics blue. Bridge of nose depressed, forehead protruding. Anterior fontanelle considerably enlarged, the back of the head including the whole occipital and two thirds of parietal bones is soft and gives the sensation of feeling a soft rubber ball. The head is much wider laterally than the anteroposterior measurement. A prominent rounded ridge one inch wide over each ear extends well up into the calvaria. Three bony points can be palpated in back of head. Lower part of face small. Palate entire but highly arched. Chest and abdomen show no abnormalities. Spine straight; no deficiency in vertebræ palpable. Arms and hands well formed. Legs so short as to seem out of proportion to body and arms. The thighs are held in abduction and external rotation. Legs flexed giving a frog position. Joints are all right. Anterior bowing of both tibias. Slight talipes equinovarus of both feet. Moving the legs causes pain. On palpating the arms and legs, which appear well filled out with muscle and fat, a peculiar woody sensation is experienced, as if the bones were much thickened and with very little soft tissue over them. Total length 17 inches.

Subsequent History.—The clubfeet were corrected by the application of a series of plaster casts.

Roentgen ray shows greatly thickened long bones with large epiphyses.

Feb. 12, 1912: In consequence of slight twist of left arm, the left humerus was fractured near middle.

May 17, 1912: Patient's activity increasing but she still cries when handled.

Oct. 12, 1912: Roentgen ray shows old fracture of left femur and left tibia.

Jan. 12, 1913: By accident the left femur was refractured.

March 14, 1913: Right humerus fractured.

Sept. 11, 1913: Stature of patient 23 inches. Circumference of head at prominence over ears, 18¼ inches.

Jan. 24, 1914: Continuous efforts have been made to straighten tibias without operation but right remains bowed. Both forearms becoming bowed posteriorly.

March 28, 1914: Circumference of head, $19\frac{1}{4}$ inches. Back more rounded and more firm. Incisors badly decayed.

Oct. 4, 1914: Patient sits alone in chair. Both tibias bowed greatly anteriorly. Marked chicken breast. Very bright, talks quite well. The mother was pregnant and gave birth to a normal boy. She reports that June 6 the patient while playing fractured the left humerus near the shoulder. July 10 on turning in bed she broke the right humerus near the middle.

Feb. 17, 1915: Her father carrying the child thought she was about to fall and clutched her suddenly, fracturing the left femur near the middle. Circumference of head, $19\frac{3}{8}$ inches.

Recent Roentgen rays show fractures of left fibula, left ulna and radius, and right radius, of which no definite history was obtainable. All fractures healed in two to four weeks. Total number to date is twelve.

She was given phosphorus in olive or cod liver oil faithfully for about one and one-half years. Over one period of six months thyroid gland was given.

Patient's total length is now 24 inches. The arms are $3\frac{1}{8}$ inches and the legs 4 inches longer than at six months. The chest measurement has increased 3 inches, the abdomen $2\frac{1}{2}$ inches.

3. A NEW CONJUNCTIVAL FLAP INCISION IN CATARACT EXTRACTION.—By DR. A. E. EWING.

This flap is obtained by means of the double fixation forceps, with which the conjunctiva is grasped on either side of the cornea over spaces 5 to 7 mm. in width in such a way as to fold the conjunctiva moderately over the corneal margin along the line of the incision. This will naturally involve the conjunctiva as the incision is executed, and a flap of any desired size may be obtained which will protect the corneal wound throughout its entire length when any of the linear knives are employed. With the lance-shaped keratome the corneal incision is subconjunctival, there being no division of the flap at the angles. Also this folding of the conjunctiva over the corneal margin permits placing the incision well forward in the sclerocorneal margin where it will interfere the least with the intra-ocular circulation.

4. THE EFFECTS OF AURICULAR TONE AND AMPLITUDE OF AURICULAR SYSTOLE ON VENTRICULAR OUTPUT.—By DR. ROBERT GESELL.

In a previous investigation the rôle of auricular systole in the maintenance of blood pressure, therefore also in the maintenance of ventricular output was studied. By crushing the auriculoventricular bundle and stimulating the ventricles it was possible to progressively place auricular systole in any phase of ventricular cycle. By this method the effect of auricular systoles of equal amplitude occurring in all phases of ventricular cycle was determined.

The heart of the turtle permits of studying the importance of auricular systole in another way. In this animal the auricles show two types of contractions, clonic and tonic, the amplitude of the quick clonic varying inversely with the amplitude of the slow tonic contraction. This behavior of the auricles permits one to note the effects of auricular systole of gradually varying amplitude occurring at the same normal period in ventricular cycle.

The methods employed were as follows: The effect of auricular systole on ventricular output, directly, was studied. The heart was perfused in situ with Ringer's solution, all veins, with the exception of the right Cuvierian duct, which was connected with Mariotte bottles containing Ringer's solution, were

ligated. The ventricular output was led from one of the larger arteries to a differential volume recorder; the other arteries were tied. Right and left auricular contractions were recorded. Venous pressures varying from 10 to 60 mm. of water were employed. Tone waves occurring with all these pressures had an effect on ventricular output. With the higher venous pressures tone waves were not nearly as marked as with lower venous pressures. Changes in ventricular output were also less marked. With ventricular pressures varying from 15 to 25 mm. of water the tone waves were most marked and consequently with these pressures the effect of auricular systoles of varying amplitudes were best studied. During periods when auricular systole was of high amplitude, ventricular output was more than double that occurring during periods in which auricular systole was of low amplitude.

The slow tonic contractions of the auricles, as well as the rapid clonic contractions, forces blood into the ventricles and tends to counteract the decreasing deficiency of auricular systole occurring at that time.

Even though venous pressures may be high if venous supply is deficient, decreasing tone of the auricles accompanied by increasing amplitude of auricular systole may be accompanied by a very marked decrease in ventricular output, the auricles dilating more easily and rapidly than the ventricles and consequently receiving a greater bulk of the venous inflow to the heart. Increase in tone accompanied by decreased amplitude of auricular systoles, on the other hand, markedly increases the ventricular output. In this case both tonic and clonic contractions become effective.

Changes in auricular tone occur in the river terrapin with the circulation intact and are accompanied by changes in arterial pressure. If tone waves in the auricles of mammals could be demonstrated it would offer another explanation of blood pressure waves of the third order.

5. A STUDY OF THE VON PIRQUET REACTION IN TUBERCULOUS ADULTS.—By DR. WALTER FISCHEL.

A study of 176 patients with pulmonary tuberculosis made in the tuberculosis clinic of the Washington University Hospital formed the basis for these observations. The patients were divided into classes according to the classification of the national association. The von Pirquet test was made with old tuberculin (Hoechst), full strength.

Of the sixty-five incipient cases, forty-four gave a positive reaction or 68 per cent. In moderately advanced cases, sixty-seven in all, there were thirty-three positive or 50 per cent. In the far advanced cases, forty-four in all, there were 22 positive. In the entire series of 176 cases there were 56 per cent. positive reactions.

From these figures it will be readily seen that the von Pirquet reaction can be of no great value in either proving or disproving the presence of pulmonary tuberculosis in adults. The proper interpretation of a von Pirquet reaction is a very difficult thing in the present state of our knowledge. We can only say that the von Pirquet reaction is an indication of tuberculin sensitization in the individual tested. A positive reaction indicates a preceding sensitization by the tubercle bacillus and may be considered an expression of one part of the mechanism of resistance. A negative reaction may mean (a) that the individual has never been sensitized, that is, inoculated or infected with the tubercle bacillus, or (b) that this sensitization has been lost either through lapse of time or by the overcoming of this mechanism of resistance by the disease, or (c) that the individual has developed a condition of refractoriness or anti-anaphylaxis.

6. OSTEOCHONDRITIS (CALBE-PERTHES DISEASE).—By DR. NATHANIEL ALLISON AND DR. ELLSWORTH W. MOODY.

Attention has been called to this affection only in the last few years. Perthes in 1913 described the condition as being an osteochondritis of the upper end of the femur affecting the epiphysis of the head. It is differentiated sharply from juvenalis deformans arthritis in that the joint surface is at no time during the course of the disease involved. It is seen more frequently in boys than in girls and affects usually only one hip. Pain on joint motion slight in character and radiating to the knee accompanied by limitation of abduction of the joint, are the cardinal symptoms. The disease runs a perfectly typical course and results in recovery with slight deformity of the upper end of the femur evidenced by shortening and thickening of the femoral neck and lessening of the femoral angle.

In seeking for the etiologic cause normal development of the femur is demonstrated in a series of slides taken from femur obtained at autopsy.

It seems that the upper epiphysis between the third and tenth year undergoes a flattening and rarefaction which is not dependent on any type of infection.

Clinically these cases have often been mistaken for early joint tuberculosis.

At the St. Louis Children's Hospital in the last four years there have been nine typical cases of this affection.

Twenty-Second Meeting, May 10, 1915

1. OBSERVATIONS ON THE BLADDER IN DISEASES OF THE CENTRAL NERVOUS SYSTEM.—By DR. JOHN R. CAULK AND DR. HARRY G. GREDITZER.

The authors report a series of cases in which they discuss various bladder changes occurring in association with certain cerebrospinal diseases. They mention the fact that the bladder was often the first organ affected in central nervous system disease. They believe they can always diagnose such diseases by the cystoscopic appearance of the bladder, not only when there are other definite neurologic findings but in many cases where there are no other demonstrable nerve changes. Among the diseases in which this picture was found are: tabes, dementia paralytica, paralysis agitans, plumbism, exophthalmic goiter, etc.; in this series there were several negroes and one woman. The cystoscopic appearance consists in relaxation and dilatation of the internal orifice of the bladder, the bladder and urethra being a common cavity, allowing the whole posterior urethra in many cases to be cystoscoped and in almost all cases giving a picture of the verumontanum. The bladder wall shows the picture seen back of obstructions, notably trabeculation. This trabeculation is general. The trigone is veil-like, not husky and thick as back of certain other obstructions. External sphincter is usually spastic. Such bladders have varying grades of residual urine, some as high as 1,500 c.c. The authors show pictures of such bladders filled with collargol. Finally they discuss the treatment and have shown that these patients may be materially benefited and may in many cases become entirely free of urinary discomfort.

2. THE REPORT OF ONE HUNDRED CASES OF INGUINAL HERNIA.—By DR. H. H. HAGAN

An effort was made to follow up and examine a series of 100 cases of inguinal hernia operated on in the Washington University Hospital. We were able to follow up sixty-seven of these cases.

Sex.—Ninety-four male, six female.

Type of Hernia.—Ninety-five indirect, five direct. Among these, four sliding, two incarcerated, four congenital, two strangulated. Hernia on right side in forty-seven, left forty-two, bilateral in eleven cases. Undescended testes in six cases. Chronic appendicitis in two cases.

Treatment.—Operation contraindicated in five cases. In cases of undescended testicle, testes removed in two and brought down into scrotum in four. Appendix removed through hernial sac in the two cases of chronic appendicitis; in all cases giving a suggestive history an attempt to do so was made. Besides the eleven cases of bilateral hernia, bilateral operation was performed in eight others because of the presence of a unilateral hernia with a relaxed inguinal ring on opposite side.

Technic of Operation.—The Bassini operation, or the modification in which cord was not transplanted, was routine procedure. Cord transplanted forty-nine and not transplanted fifty-six times. Silk used as routine for sutures.

Postoperative Complications.—One wound infection. Relatively small number had some edema of scrotum which soon subsided. One hematoma. One case developed phlebitis in the second week. One complained of anesthetic area in region of wound. None of those examined complained of painful scars.

Results.—In the strangulated hernia the first case died on the fourth day. The second case, which was a seventy-two-hour obstruction with perforation, recovered. Three recurrences. One patient writes of his recurrence but has not been examined. The second case was that of a woman, aged 50 years, who had a definite recurrence after lifting some heavy farm machinery. Third case returned for operation but no inguinal hernial sac was found. On further exploration a small ventral hernia was found just lateral to the rectus muscle so this case cannot be definitely considered a recurrent hernia. However, if we do consider there were three recurrences in the entire series, then the percentage of recurrences is 3.1, or if the percentage is based only on those cases which have been followed up and examined the recurrence is 4.4 per cent.

Period of Disability.—Average time in hospital, 14.8 days. Average time before returning to work after leaving hospital is approximately four weeks.

3. A CASE OF ANEMIA WITH SICKLE-SHAPED RED BLOOD CELLS.—By DR. J. E. COOK AND DR. JEROME MEYER.

The case reported is that of a mulatto woman, aged 21, with severe anemia. The remarkable feature of the case lies in the unusual shape of a large percentage of the red blood cells. There are long spindle-shaped and sickle-shaped cells entirely different from anything that either of us have ever seen in a blood preparation. It is certain that these are not artifactuals for they are present constantly in all the preparations, either moist or in the dry smear; nor has the blood of any other individual given rise to such appearances. Besides this shape in the red blood cells the patient has a red count which varies around 2,500,000, and a slight leukocytosis which averages around 11,000. There is a constant eosinophilia of varying degree, the differential count having shown as high as 42 per cent. and a count of 23 per cent. was not infrequent. In addition to this unusual blood picture the patient suffers from a recurrent, indolent type of leg ulcer. The anamnesis fails to throw any light on the nature of her condition. Careful search of the blood and stool has been made for parasites without result. A painstaking search of the literature reveals only two similar cases and there is such a striking similarity

between the clinical history and the blood findings of these two cases and our own that we are forced to the conclusion that they are of the same nature and due to an identical cause. All three of the patients were of negro blood, all three suffered from recurring leg ulcer, in no case could enlargement of the spleen be made out, and in no case could responsibility be fixed on syphilis or parasite. The red cell count in all the cases averaged around 2,500,000, all of the cases showed a leukocytosis, and all showed an eosinophilia of distinct but varying degree, and the constant presence of nucleated reds. Washburn and Herrick who have reported the other two cases have kindly sent us blood smears. A glance at these leaves no doubt as to the identical character of the elongated and sickle-shaped red cells.

4. SCOPOLAMIN-NARCOPHIN IN OBSTETRICS.

—By DR. OTTO H. SCHWARZ.

The remarkable campaign in the interest of twilight sleep, which was started about a year ago by McClure's Magazine, has forced the obstetricians of the United States to make a thorough investigation of this method of relieving the pain of childbearing as originated and practiced in the Frauenklinik of Freiburg.

The new quarters of the Department of Obstetrics in Barnes Hospital offer the chance of testing the value of twilight sleep under fair conditions; the chief of the department, therefore, requested that this work be taken up just as soon as the removal to the new quarters was accomplished.

In view of the conflicting reports as to the safety of this method for the mother and, more particularly, for the child, it was deemed advisable to use the identical drugs employed at Freiburg, namely, the scopolamin-stable and narcophin, and to study their action on heart and respiration in animal experiment as a foundation for the clinical work.

The necessary experiments were conducted in the pharmacologic laboratories under the constant supervision of Dr. Jackson.

Scopolamin, it was found, has in moderately large doses practically no influence on heart and respiration; its well-known paralyzing influence on peripheral nerve endings can be demonstrated by its action on the endings of the vagi in the bronchioles and on the inhibitory terminals of the vagi in the heart.

Narcophin, like other opium alkaloids, affects respiration in two ways, namely, by acting on the respiratory center and by acting directly on the muscle fibers of the bronchioles producing bronchoconstriction.

We were able to show that the influence of narcophin on respiration, although well marked, is considerably less than that of morphin, narcotin and other opium alkaloids.

From these experiments it appears evident that the use of scopolamin for the induction of twilight sleep is comparatively safe, but that the use of narcophin or morphin requires close watching and is responsible for the ill effects on babies so often described in recent literature.

This consideration is guiding us in our clinical work; the routine schedule of Siegel, which we had followed in the first cases, was discarded on account of the repeated doses of narcophin, and we now try to follow the original method of Gauss in every detail.

Our clinical experience is limited to fourteen cases, ten of which were primiparæ.

In eleven cases the result for the mother was perfect; the remaining three cases showed considerable analgesia but amnesia was absent or imperfect.

Of the babies nine were in perfect condition at the moment of birth; four showed oligopnea or apnea, lasting from one to five minutes; one child was asphyxiated and required artificial respiration for five minutes. The condition of the babies was in no case alarming and was not always due to the action of the drugs; in one case a rather high forceps delivery before the head had rotated seemed responsible for the delay in establishing respiration; on the other hand, a face presentation in a primipara with forceps delivery gave perfect results for the mother and baby.

In these and other cases about 10 drops of chloroform were sufficient to completely anesthetize the patient. Scopolamin-narcophin is no contraindication for giving a general anesthetic, but the synergetic action of these drugs and the anesthetic must be taken into account.

House staff and nurses have now learned to protect the patient against various disturbing influences which might rouse her from her sleep and give rise to "isles of memory" which might interfere with successful twilight sleep; the ears are plugged with cotton soaked in oil; the eyes are covered with a cloth; loud conversation and all unnecessary noises are avoided; in most cases a few drops of chloroform are given during the passage of the head, for the twilight sleep is not supposed to be deep enough to cover the more acute pain at this time.

Our results, so far, have been so encouraging that the department is now ready to administer twilight sleep in every suitable case provided the patient does not object.

Since it takes from one and a half to two hours for the drugs to develop their full action, cases which presumably will terminate in a shorter time are not suitable; with this one exception—all cases active in labor, with strong contractions occurring every five or six minutes in which the patient suffers pain, are entitled to the comfort of twilight sleep.

5. OBSERVATIONS ON THE USE OF SCOPOLAMIN-NARCOPHIN DURING LABOR.—By DR. GEORGE GELLHORN AND DR. WILLIAM KERWIN.

In order to form a personal opinion the authors selected out of a material of approximately 150 cases eighteen patients on whom to test the merits of the much discussed "twilight sleep" delivery. All these patients were healthy women in whom previous examinations of heart and kidney and measurements of the pelvis had shown normal conditions. The majority of the cases were primiparous and labor occurred at or near full term. The technic employed was in strict accordance with Siegel's modification of the original method of Gauss.

The observations made were presented in a number of tables and may be summarized as follows:

The scopolamin-narcophin narcosis was not instituted until after labor was well established, that is, strong and regular uterine contractions had existed for several hours and the external os admitted at least two fingers. The average length of the entire labor in sixteen cases was fourteen hours twenty-four minutes, as contrasted with sixteen hours twelve minutes computed by Gauss in 1,000 cases. Inasmuch as the average length of first labor is generally supposed to be between eighteen and nineteen hours it is seen that the twilight sleep prolongs, if at all, the process of delivery but very slightly. The first stage of labor is slightly shortened, while some delay occurs in the second stage. The head seems to rest longer on the perineum than we have been accustomed to see. As to the duration of the third stage, the expulsion of the placenta and the amount of accompanying bleeding, there were no departures from normal conditions.

The average number of injections in the present series was five of scopolamin (4.5 c.c.) and three of narcophin (2 c.c.). The behavior of the patients during the twilight sleep closely corresponded to that described by Gauss and his followers. Complete amnesia was present in twelve cases. In three cases amnesia was incomplete at the time but it was found that the patients remembered nothing when questioned the next day.

By-effects noted were those described by other authors and consisted mainly of hot flushes, twitching of the muscles of the extremities, irrational talk, and occasionally a state of pronounced excitation. Blood pressure was determined both before and during labor without yielding any noticeable changes. Examinations of urine were made in like manner but showed no untoward effects from the seminaesthesia. During the last part of the second stage ether or chloroform was administered; of these, exceptionally small quantities only were needed. In the small series presented no difference in the frequency of obstetric operations was noted. The puerperium in our cases was normal in every respect.

All children were born alive and left the hospital in good health with the exception of one who died after nine days from an infection. Of the eighteen children, twelve cried immediately after birth, two were cyanotic but breathed on external stimulation, while four were apneic or asphyxiated and swinging had to be resorted to. Judging from larger statistics, danger to the child seems to have been greatly exaggerated.

The authors concluded that the claims of Gauss are true and that "twilight sleep" is, thus far, the best method of safely reducing the pain of childbirth. The necessary premises for success are those formulated by the originator of the method, namely, careful selection of cases, favorable surroundings, and extensive obstetric experience and judgment.

THE BARNARD FREE SKIN AND CANCER HOSPITAL CLINICAL AND LABORATORY REPORTS

4. PEMPHIGOID ERUPTIONS FOLLOWING VACCINATION*—By DR. W. H. MOOK

The unusual occurrence in St. Louis, in the past two and one-half years, of eight cases of pemphigoid dermatitis following vaccination has suggested that the complications following this procedure are probably increasing. From a study of the literature, it seems that either the type of lesions has changed in the past thirty or forty years, or a new entity has been established.

If this disease is the same as was formerly described as vaccinia, the mortality is increasing, the period of incubation is becoming longer and the constitutional symptoms are more severe. The following cases represent numerous interesting features:

CASE 1.—Aged 9 years. The boy was first seen Dec. 22, 1912. He had always been in rather delicate health. He had been vaccinated November 2, the vaccination taking and undergoing the usual stages of evolution. December 18 he had a severe chill at 7 o'clock in the morning followed by a marked rise in temperature. At 3 o'clock the same afternoon a few bullae appeared on the back of his neck and sides of his face. By the next morning large and small bullae of all sizes were seen all over the body, some of them containing as much as an ounce of fluid.

* Abstract of paper published in Jour. Cutan. Dis., October, 1915.

At this time the blood count showed a leukocytosis of 17,000 white blood corpuscles and eosinophils 5 per cent. Smears from a bulla showed 2 per cent. eosinophils. In this case the bullae were multiform in character and varied in size from a small vesicle up to a bulla 2 inches in diameter. They were serous, serosanguineous and hemorrhagic in character. Some were perfectly round, others oval and some irregular in shape. On the back the lesions were somewhat different from those observed on the chest and abdomen. Here they consisted of erythematous, slightly infiltrated plaques of various sizes from 1½ to 2 inches in diameter, many of them capped by bullae much smaller than the individual plaque. In many of them were seen concentric rings of bullae as in herpes iris. The erythematous borders spread peripherally, forming other erythematous, crusted, eczematoid patches.

He was observed in the Barnard Free Skin and Cancer Hospital for two months, during which time he had numerous outbreaks of vesicles and smaller bullae than were observed at first. The lesions gradually localized around the joints, and at various times a few lesions appeared on the mucous membrane of the mouth and posterior walls of the pharynx.

His temperature most of the time was normal, except when there was slight secondary infection. There was no pruritus and the only discomfort he suffered was from the denuded areas resulting from ruptured bullae.

When he was discharged he had small clusters of bullae around the mouth, at the joints of his wrists, elbows, shoulders, groins, knees and ankles. His general health was considerably improved. The period of incubation in this case was five weeks and one day.

CASE 2.—Boy, aged 6 years, entered St. Louis Children's Hospital under the service of Dr. Veeder. This boy was well nourished and well developed. Applied for treatment for bullous lesions over various parts of the body. There were no prodromal symptoms. The eruption appeared thirteen days after vaccination. He had a temperature of 100 when he entered the hospital.

Scattered over the face, arms, fingers, legs and feet, and about the scrotum were large bullae, varying in size from one-half to 2 centimeters in diameter. They were mostly serous and a few hemorrhagic. Many were surrounded by a red areola. They were especially well marked on the mouth, lips, chin, nostrils and penis. Patient died twenty-five days after his entrance to the hospital. Postmortem was refused.

CASE 3.—Patient was a girl, aged 7 years. Her trouble started with a chill and high fever thirty-two days after vaccination. There were no mouth lesions. In this case the primary lesion was a rather perfect, circinate, erythematous plaque, slightly infiltrated, of various sizes, usually small in the beginning and many of them capped by bullae. In some instances the bullae were circinate, with depressed centers and occasionally in rings, as seen in herpes iris. The erythematous plaques coalesced into large, gyrate lesions, involving most of the trunk, with bright red borders and brownish red centers where the slight infiltration had been absorbed as the lesions spread over larger areas.

Her blood count showed a leukocytosis of 28,000 and an eosinophilia of 16 per cent. The contents of a small bulla showed 35 per cent. eosinophils. The patient was only seen twice, the father refusing further observation. Period of incubation in this case was thirty-two days.

CASE 4.—Boy, aged 7 years. Scattered around the mouth, neck, shoulders and all the joints were numerous large and small bullae, mostly serous,

though a few were hemorrhagic. He had been vaccinated four weeks previously. Blood count showed a leukocytosis of 15,000 with eosinophils only 3 per cent.

Over a period of four weeks he suffered continual outbreaks of bullae. He was discharged from the hospital at the recommendation of his parents and died five weeks after the appearance of the eruption under the care of a private physician who gave mitral regurgitation as the cause of death. He had mouth and nasal lesions. The period of incubation was four weeks.

CASE 5.—F. H., aged 38. He had been vaccinated six weeks previously and had a normal take. There were many large and small bullae scattered over the neck, chest, and especially well marked in the axillae. There were a few hemorrhagic bullae, though most of them were serous. There were a few lesions in isolated areas over the trunk and extremities. Ten days after the appearance of the eruption many of the sites of the bullae in the axillae showed vegetation, later healing and leaving smooth papular elevations. There was only one outbreak and he recovered in two weeks.

CASE 6.—The patient was a man treated by Dr. Engman in 1904. He had been vaccinated fourteen days previous to the appearance of the eruption. The bullae were distributed over the thighs, legs, arms, forearms, hands, back and inguinal region. There were many lesions in the mouth and nose and he recovered entirely in three weeks. This man has been observed to the present time (a period of eleven years) without recurrence.

CASE 7.—P. M., aged 38, negro, was first sent to the Isolation Hospital of St. Louis with a diagnosis of chickenpox. Two days later he broke out with numerous bullae all over the body and many lesions in the mouth and nose. He had been vaccinated four weeks before and had a normal take. He died twelve days after the appearance of the eruption. His leukocyte count was 14,000 and 15 to 18 per cent. eosinophils. He ran a continued high temperature. Postmortem examination revealed only slight bronchial pneumonia and edema of the brain.

CASE 8.—E. H. W., aged 12, son of a physician; was seen March 31, 1913, by Dr. Engman and myself. He was a large, well-developed boy for his age. He had been vaccinated seven weeks previous to the eruption, but the vaccination did not take and there was no scar resulting. When first observed he had bullous and crusted lesions in the mouth and on the backs of the hands. On the backs of the hands the lesions were concentric rings one-half to 1 inch in diameter, isolated, and without inflammatory areola.

This attack was cleared up in about ten days under rest treatment in the hospital. He suffered a second attack about six weeks after the first, a third attack four months after the first, and a fourth attack nine months after the first, and the last one thirteen months after the first.

Each time the lesions appeared as bullae in the mouth, on the hands, and on the knees. The attack would begin by his becoming dull, inattentive, listless. The bullae would appear in the mouth and on the areas mentioned. He would have some fever and become sleepy. He always suffered great difficulty in swallowing, owing to the presence of the lesions in the throat, and a cream diet was necessary. Attacks usually lasted about a week and his strength gradually returned, but following each attack he would become so nervous that he could not write.

It has now been a year since his last attack and his father states he is still so unsteady that he cannot thread a needle, but he has grown fat, weighs 127 pounds and is 5½ feet tall.

Investigation.—Blood cultures from three of the cases were negative on all media. Fluid from bullae injected into rabbits, guinea-pigs and two monkeys gave negative results. Injections of fluid into the mouth, lips and hoofs of a calf, to eliminate foot and mouth disease, were negative.

The rarity of these cases from a large supply of vaccine from the same sources suggests an idiosyncrasy in the individual. The clinical dissimilarity of the above cases with those described as generalized vaccinia, together with the negative inoculation experiments, is very suggestive that generalized vaccinia and the acute pemphigoid dermatitis following vaccination are different affections. That they are in some way related is a natural conclusion. The cases in the children reported are somewhat different from those reported by Bowen, in that the period of incubation is longer and two of them died. They resemble more those reported by Howe, in that three of the seven cases were fatal.

A study of the literature reveals an increasing number of cases. Summing up the evidence from the above cases and those in literature, we have a constitutional, more or less symmetrical disease of the skin following vaccination, manifesting a great variety of lesions. The period of incubation may vary from three or four days to four months, with a majority of them occurring in three or four weeks. The disease may terminate in rapid recovery with or without constitutional disturbance, or continue as a chronic recurrent, vesicular or bullous affection, as a true or pseudodermatitis herpetiformis with or without constitutional symptoms, or terminate fatally in a comparatively short time.

5. PRIMARY SARCOMA OF THE GALLBLADDER.—By DR. N. B. CARSON AND DR. G. M. SMITH

A year ago Iwasaki reported a case of primary sarcoma of the gallbladder and stated that only eight well-authenticated cases had been described up to the time his paper was published. The present case of sarcoma of the gallbladder occurred in a woman 38 years old. The patient gave a history of cholelithiasis extending over a period of three years. The gallbladder, removed at operation, showed a tumor occupying the fundus and the region of the cystic duct measuring 8.5 by 4 by 3 c.cm. Microscopically, the tumor was found to be a round-cell sarcoma. In other published cases of sarcoma of the gallbladder the tumor tissue has presented a more complex cellular structure. Tumors of polymorphous cells have been described; in two cases the tumor was a myosarcoma. Sarcoma of the gallbladder is usually associated with gallstones. In the present case a history of gallstones for a period of three years, taken together with the fact that the sarcoma was a small one presenting many mitotic figures, makes it seem likely that the formation of gallstones preceded the development of the tumor, or at least the period in which the tumor assumed a rapid and invasive growth.

MEDICAL SOCIETY OF CITY HOSPITAL ALUMNI, ST. LOUIS

The annual banquet of the City Hospital Alumni Medical Society was held at the Washington Hotel, St. Louis, January 6. In spite of the inclement weather an attendance of ninety was recorded.

The speakers of the evening were Hon. C. Porter Johnson, Rev. William J. Williamson and Hon. J. Nick Perrin. A splendid feast was served and the speakers were well received. Dr. Reder, the retiring president, introduced the newly elected president, Dr. C. H. Shutt, who presided.

The society reports an increase in attendance and interest shown at the scientific meetings. A splendid epidiascope has been purchased to facilitate the demonstrations of microscopic slides and illustrations from textbooks.

The usual amount of spirit was shown at the banquet, a feature that has always been marked at this occasion.

S. S. BURNS, M.D., Secretary.

BATES COUNTY MEDICAL SOCIETY

Bates County Medical Society met at their regular monthly meeting Thursday afternoon, Dec. 30, 1915, in the office of Dr. T. C. Boulware. Owing to the inclemency of the weather and bad roads the number of physicians present was limited to the smallest attendance of any meeting during the year. Those present were Drs. T. C. Boulware, T. F. Lockwood, E. N. Chastain, V. J. Cumpton, C. J. Allen and J. S. Newlon.

The meeting was called to order by the president, Dr. T. C. Boulware.

The secretary, Dr. C. A. Lusk, being absent, the reading of the minutes of the previous meeting and matters of communication were omitted.

The scientific program consisted of two papers—one by Dr. E. E. Robinson of Adrian, and one by Dr. J. H. Williams of Hume. Both essayists being absent the society proceeded to the election of officers for the ensuing year.

The nomination for president being open and in order, Dr. C. J. Allen was nominated and elected by acclamation. Nomination for vice president being open and in order, Dr. T. C. Boulware was nominated and elected by acclamation. Nominations for secretary being open and in order, Dr. J. S. Newlon was nominated and elected by acclamation. Delegate to the State Association, Dr. T. C. Boulware.

On motion of Dr. E. N. Chastain, seconded by Dr. T. F. Lockwood, the president appointed a committee of three, consisting of Drs. T. F. Lockwood, E. N. Chastain and J. S. Newlon, to draw up resolutions pertaining to the sad death of Dr. Sherman Miller, that a copy be placed on the records of the society, one copy be sent to the *STATE JOURNAL* and one copy sent to the bereaved wife and mother. Carried.

The newly elected president, Dr. C. J. Allen, appointed the board of censors as follows: Drs. E. N. Chastain, T. F. Lockwood and V. J. Compton.

On motion, with peace and harmony prevailing, the society adjourned to meet Jan. 27, 1916.

J. S. NEWLON, M.D., Secretary.

BUCHANAN COUNTY MEDICAL SOCIETY

The regular meeting of the Buchanan County Medical Society was held at their rooms, Wednesday evening, January 5, the president, Dr. J. F. Owens, in the chair. Thirty-four members were present. The minutes of the previous meeting were read and approved.

The reports of the secretary and treasurer for 1915 were read and ordered filed. The treasurer's report was referred to the executive committee for audit. The retiring president, Dr. J. F. Owens, having been called away, Dr. McGill occupied the chair and later Dr. Charles Geiger, recently elected president, was installed.

On motion of Dr. Woodson the county society dues of Dr. J. I. Graham for the last two years were remitted and the doctor's name added to our roll of membership after payment of two years' state dues which amount to \$6.

A communication from the city librarian regarding a renewal of the society's subscription to the medical journals was read and the treasurer was authorized to make up any differences in addition to the donation of the secretary's salary to pay for these subscriptions:

Total amount of subscriptions....	\$87.75
Secretary's salary.....	56.00
Deficit	\$31.75

Dr. Morton, in behalf of the medical service committee, made an extensive report regarding the results which the society accomplished in connection with the medical services rendered the Y. M. C. A. and Y. W. C. A.

The question raised by Dr. W. J. McGill, whether osteopaths were permitted under the federal law to prescribe narcotics was replied to by Dr. Woodson who promised a final opinion at our next meeting.

Our new president having been installed made his opening address in which he emphasized the need of a city hospital and the establishment of a medical laboratory.

On motion of Dr. Daniel Morton, seconded by Dr. Leonard, the following committee was named to outline the duties of the standing committee known as the laboratory committee: Drs. D. Morton, P. I. Leonard and A. E. Holley.

The president announced the following standing committees to serve during the year 1916: Executive: Drs. F. H. Spencer, E. F. Cook, C. S. Branson. Public Health and Legislation: Drs. Leroy Beck, W. L. Kenney, J. S. Forsen. Program: Drs. J. M. Doyle, H. S. Conrad, G. M. Boteler. Library: J. F. Owens, F. X. Hartigan, L. S. Long. Medical Service: Drs. E. S. Ballard, W. H. Minton, Daniel Morton. Membership: Drs. J. J. Bansbach, W. J. McGill, Charles Greenberg. Tuberculosis: Drs. O. G. Gleaves, G. R. Stevenson, O. C. Gebhart. Laboratory: Drs. O. A. Schmid, F. G. Beard, Paul Forgrave.

CLINTON COUNTY MEDICAL SOCIETY

The Clinton County Medical Society met in Lathrop, November, 1915, and after a full evening's program given by Dr. C. C. Conover of Kansas City, demonstrating heart and lung diseases, we rushed business by reelecting the officers of 1915 for the year 1916, namely: Dr. C. W. Chastain, Plattsburg, president; Dr. Robert Rea, Plattsburg, vice president; Dr. M. L. Peters, Cameron, secretary-treasurer.

M. L. PETERS, M.D., Secretary.

DAVISS COUNTY MEDICAL SOCIETY

Daviess County Medical Society, at a recent meeting, held in Gallatin, elected their 1916 officers and enjoyed an excellent program. Dr. Spence Redmon, councilor of the district, was present and made a most entertaining and instructive address.

The new officers are: president, Dr. C. E. Griffith; first vice president, Dr. L. R. Doolin; second vice president, Dr. F. V. Frazier; secretary-treasurer, Dr. M. A. Smith (reelected).

The next meeting will be held in March.

M. A. SMITH, M.D., Secretary.

GRUNDY COUNTY MEDICAL SOCIETY

The Grundy County Medical Society held its regular meeting at Trenton, January 4, in the new quarters recently secured in the board of directors' room of the Trenton Trust Company.

The following officers were elected for 1916: Dr. O. R. Rooks, Trenton, president; Dr. J. F. Fair,

Trenton, vice president; Dr. E. A. Duffy, Trenton, secretary; Dr. W. D. Fulkerson, Trenton, treasurer; Dr. T. E. Moore, Trenton, delegate, and Dr. E. A. Duffy, alternate.

The new quarters are commodious, steam heated, electric lighted and nicely furnished. The members of the society are very proud of their meeting place and we look for a good attendance with spirited discussions at each meeting on the first Tuesday of the month. The next meeting will be held on February 1. A good program is being arranged and we hope every member will be present.

E. A. DUFFY, M.D., Secretary.

JASPER COUNTY MEDICAL SOCIETY

The Jasper County Medical Society met in regular session Jan. 4, 1916, at Joplin, with the following members present: Drs. Morgan, Pifer, Shelton, Lucas, Hill, Mary Mack, S. H. Miller, Welcome and Korn.

Dr. Morgan, the new president, was introduced by Dr. Lucas, the retiring president, and took the chair without further ceremony.

The minutes of the last two meetings were read and approved.

Dr. Pifer reported an interesting case in which he removed a submerged tonsil for chronic otitis media, the patient developing a varioloid eruption the following day. A discussion followed by Drs. Hill, Morgan and Welcome, as to the precautions to be taken to prevent the spread of smallpox.

Dr. Morgan reported an unusual case of lead poisoning in a young woman following the use of "flake white" as a face paint for nine years. The only treatment advised was a discontinuance of the "paint." He reported a gain of 29 pounds in seven months and clearing up of all symptoms.

Drs. Pifer, Korn and S. H. Miller were appointed a committee to arrange for the annual banquet with instructions to report at the next meeting.

LAFAYETTE COUNTY MEDICAL SOCIETY

The Lafayette County Medical Society met in regular meeting at Higginsville, December 14, in Dr. Braecklein's office. The president, Dr. Ferdinand Schreiman, called the meeting to order. On roll call the following responded: Drs. Braecklein, Chalkley, Cope, Mills, Morley, Oetting, Ryland, Schneider, Schreiman, Webb and Williams. Dr. R. H. Meade and Dr. G. Wilse Robinson, Kansas City, were present on invitation. After the reading and adoption of the minutes of the previous meeting the following program was rendered:

Dr. G. Wilse Robinson read an exhaustive paper on "Dementia Praecox" and Dr. R. H. Meade read a paper on "Diagnosis of Appendicitis." Both papers were extensively discussed and many good thoughts and ideas were brought out, to the entertainment and instruction of those present.

This was a very interesting and profitable meeting, but we who were present were disappointed that many who should have been there were absent. Our physicians should often come together to rub elbows for the social benefit and the bringing about and maintaining of mutual good will. "If I knew you and you knew me, 'tis seldom we would disagree."

The incoming president, Dr. Roy F. Mills of Mayview, was installed into his new office and the society is looking forward to a profitable year under his direction.

There being no more business a good meeting of the Lafayette County Medical Society came to a close. FERDINAND SCHREIMAN, M.D., Reporter.

MILLER COUNTY MEDICAL SOCIETY

Miller County Medical Society met at Eldon, Dec. 16, 1915, at 2:30 p. m., Dr. W. L. Allee presiding.

Dr. W. L. Allee and Dr. G. D. Walker of Eldon presented several patients for examination and discussion.

Dr. A. H. Cleveland of St. Louis read a very instructive paper on "Serum Therapy," which was fully discussed.

Dr. Frank De Vilbiss of Tipton, councilor of the district, gave an interesting account of the chiropractic cult. This brought out a liberal discussion.

The following officers were elected for the ensuing year: Dr. W. S. Allee, Olean, president; Dr. G. D. Walker, Eldon, vice president; Dr. C. O. Brockman, Eldon, secretary; Dr. D. H. Kouns, Tuscumbia, treasurer; Dr. W. L. Allee, Eldon, delegate to state association meeting; Dr. E. C. Shelton, Eldon, alternate.

C. O. BROCKMAN, M.D., Secretary.

RANDOLPH COUNTY MEDICAL SOCIETY

The Randolph County Medical Society met in Moberly, January 5, at the Commercial Club rooms at 2 p. m. Those present were: Drs. S. P. Towles, Thomas Fleming, E. R. Hickerson, G. O. Cuppidge, R. D. Streeter, L. A. Bazan, O. K. Megee, C. B. Clapp, R. A. Woods and E. W. Shrader; visitor, Dr. W. P. Elmer, St. Louis.

Dr. Elmer held a very interesting and instructive clinic on the heart and lungs. Five cases were thoroughly examined and discussed by Dr. Elmer.

All present expressed the opinion that this was the best and most profitable meeting ever held by the society.

E. W. SHRADER, M.D., Secretary.

SCHUYLER COUNTY MEDICAL SOCIETY

The Schuyler County Medical Society met in regular annual session at Lancaster, in the office of Drs. Potter and Potter, December 21 at 2 o'clock, the vice president, D. H. E. Gerwig, in the chair. The following members were present: Drs. W. F. Justice, B. B. Potter, W. A. Potter, J. H. Keller of Lancaster; H. A. Gerwig, A. J. Drake and J. B. Bridges of Downing.

The minutes of the last meeting, October 19, were read and approved.

The secretary-treasurer made a financial report to the society for the year which was adopted. By a vote of the society the secretary was instructed to procure a case for the secretary's book.

Dr. A. J. Drake read an interesting paper, with report of a case of pruritis without skin lesions, complicated with mercurial poisoning. A liberal discussion followed.

Dr. W. A. Potter read a paper on burns, and reported several cases and their treatment. This was also very interesting and thoroughly discussed.

The following officers were elected for the ensuing year: Dr. H. E. Gerwig, Downing, president; Dr. W. F. Justice, Lancaster, vice president; Dr. J. B. Bridges, Downing, secretary-treasurer (reelected); Dr. J. B. Bridges, delegate to state meeting; Dr. J. H. Keller, alternate; Drs. W. A. Potter, A. J. Drake and J. H. Keller, board of censors.

By a vote of the members all members whose dues were not paid for 1915 were suspended.

There being no further business, the meeting adjourned to meet at Lancaster, Tuesday, April 18, 1916.

J. B. BRIDGES, M.D., Secretary.

THE TRUTH ABOUT MEDICINES

NEW AND NONOFFICIAL REMEDIES

Since publication of New and Nonofficial Remedies, 1915, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

CALCIUM PHENOLSULPHONATE, P. W. R.—A nonproprietary brand of calcium phenolsulphonate admitted to New and Nonofficial Remedies. Powers-Weightman-Rosengarten Co., Philadelphia.

IRON LACTATE, MERCK.—A nonproprietary brand of ferrous lactate admitted to New and Nonofficial Remedies. Merck & Co., New York.

SODIUM PHOSPHATE, MONOBASIC, MERCK.—A nonproprietary brand of sodium acid phosphate admitted to New and Nonofficial Remedies. Merck & Co., New York.

PHLORIDZIN, MERCK.—A nonproprietary brand of phloridzin admitted to New and Nonofficial Remedies. Merck & Co., New York.

SULPHANILIC ACID, MERCK.—A nonproprietary brand of sulphanilic acid admitted to New and Nonofficial Remedies. Merck & Co., New York.

ERGOTIN, MERCK.—A nonproprietary brand of extract of ergot, purified, admitted to New and Nonofficial Remedies. Merck & Co., New York.

ANTITHYROIDIN-MOEBIUS TABLETS, $\frac{3}{4}$ GRAIN.—Each tablet contains antithyroidin-Moebius $\frac{1}{4}$ gr. Merck & Co., New York.

EUQUININE TABLETS, 2 GRAINS.—Each tablet contains euquinine 2 grains. Merck & Co., New York.

EUQUININE TABLETS, 5 GRAINS.—Each tablet contains euquinine 5 grains. Merck & Co., New York.

FERRATIN TABLETS, $7\frac{1}{2}$ GRAINS.—Each tablet contains ferratin $7\frac{1}{2}$ grains. Merck & Co., New York.

STYPTICIN HYPODERMIC TABLETS, $\frac{3}{4}$ GRAIN.—Each tablet contains stypticin $\frac{3}{4}$ grain. Merck & Co., New York.

STYPTICIN SUGAR-COATED TABLETS, $\frac{3}{4}$ GRAIN.—Each tablet contains stypticin $\frac{3}{4}$ grain. Merck & Co., New York.

STYPTICIN DENTAL TABLETS, $\frac{3}{4}$ GRAIN.—Each tablet contains stypticin $\frac{3}{4}$ grain. Merck & Co., New York (*Jour. A. M. A.*, Jan. 1, 1916, p. 31).

DIONIN TABLETS, $\frac{1}{4}$ GRAIN.—Each tablet contains dionin $\frac{1}{4}$ grain. Merck & Co., New York.

DIONIN TABLETS, 1 GRAIN.—Each tablet contains dionin 1 grain. Merck & Co., New York.

THEOPHYLLIN SODIUM ACETATE TABLETS, 0.15 Gm.—Each tablet contains theophyllin sodium acetate 0.15 Gm. Merck & Co., New York.

TRIPHENIN TABLETS, 5 GRAINS.—Each tablet contains triphenin 5 grains. Merck & Co., New York.

TUBES TROPACOCAINE HYDROCHLORIDE, STERILIZED, 1 GRAIN.—Each tube contains tropacocaine hydrochloride, 1 grain. Merck & Co., New York.

VERONAL-SODIUM TABLETS, 5 GRAINS.—Each tablet contains veronal-sodium 5 grains. Merck & Co., New York.

IODIPIN TABLETS, 3 MINIMS.—Each tablet contains iodipin 3 minims. Merck & Co., New York.

APIOL, MERCK.—A nonproprietary brand complying with the standards for apiol. Merck & Co., New York.

CREOSOTE CARBONATE, MERCK.—A nonproprietary brand complying with the standards for creosote carbonate. Merck & Co., New York.

PHENOLPHTHALEIN, MERCK.—A nonproprietary brand complying with the standards for phenolphthalein. Merck & Co., New York.

QUININE TANNATE, MERCK.—A nonproprietary brand complying with the standards for quinine tannate. Merck & Co., New York.

SODIUM NUCLEINATE, MERCK.—A nonproprietary brand complying with the standards for sodium nucleate. Merck & Co., New York (*Jour. A. M. A.*, Jan. 8, 1916, p. 117).

SWAN'S TYPHOID BACTERIN (No. 44) (PROPHYLACTIC).—Marketed in packages (hospital) of thirty-six vials and in packages (board of health) of seventy-two vials. Swan-Myers Co., Indianapolis, Ind. (*Jour. A. M. A.*, Jan. 15, 1916, p. 191).

RADIO-REM, OUTFIT No. 5.—An apparatus designed for the production of radioactive drinking water by the action of radium sulphate contained in terra cotta plates. It consists of two plates contained in 250 c.c. bottles; when the bottles are filled with water the two plates impart about 3.6 microcuric (10,000 Mache units) to 500 c.c. water daily. For action, uses and dosage refer to the article on radium in New and Nonofficial Remedies. Schieffelin & Co., New York (*Jour. A. M. A.*, Jan. 15, 1916, p. 191).

DIPHTHERIA IMMUNITY TEST (SCHICK TEST).—This test is intended to determine those persons who have not in their blood an amount of diphtheria antitoxin sufficient to render them immune to diphtheria. The test is of special value for use in institutions and among groups of persons exposed to diphtheria, in order that it may be determined which individuals should be given an immunizing dose of diphtheria anti-toxin. It is also of value in the diagnosis of other conditions simulating diphtheric infections.

DIPHTHERIA TOXIN STANDARDIZED (SCHICK TEST).—Marketed in sealed capillary tubes each containing a solution of one-fiftieth of a minimal lethal dose for guinea pigs of diphtheria toxin. H. K. Mulford Co., Philadelphia (*Jour. A. M. A.*, Jan. 15, 1916, p. 191).

DIMAZON.—Diacetylaminoozotoluene. An orange-colored powder, insoluble in water but soluble in alcohol, chloroform, oils, fats and petrolatum. It does not stain the hands or cloth. It is said to be useful to promote the growth of epithelium in the treatment of burns, wounds, chronic ulcers, etc. Dimazon is marketed as follows:

DIMAZON OIL.—Two per cent.

DIMAZON OINTMENT.—Two per cent.

DIMAZON POWDER.—Five per cent. Heilkraft Medical Co., Boston, Mass. (*Jour. A. M. A.*, Jan. 22, 1916, p. 275).

ICHTHALBIN TABLETS, 5 GRAINS.—Each tablet contains ichthalbin 5 grains. Merck & Co., New York.

TRIFERRIN TABLETS, 5 GRAINS.—Each tablet contains triferrin 5 grains. Merck & Co., New York.

BETANAPHTHOL BENZOATE, ROCHE.—A nonproprietary brand complying with the standards for betanaphthol benzoate. Hoffmann-LaRoche Chemical Works, New York.

BETAIN HYDROCHLORIDE, ROCHE.—A nonproprietary brand complying with the standards for betain hydrochloride. Hoffmann-LaRoche Chemical Works, New York (*Jour. A. M. A.*, Jan. 22, 1916, p. 275).

ERGOTININE CITRATE, ROCHE.—A nonproprietary brand complying with the standards for ergotinine citrate. Hoffmann-LaRoche Chemical Works, New York.

HOMATROPINE HYDROCHLORIDE, ROCHE.—A nonproprietary brand complying with the standards for homatropine hydrochloride. Hoffmann-LaRoche Chemical Works, New York.

SEIDEN PEPTONE, ROCHE (SILK PEPTONE).—A nonproprietary brand complying with the standards for silk peptone. Hoffmann-LaRoche Chemical Works, New York.

THEOBROMINE AND SODIUM ACETATE, ROCHE.—A nonproprietary brand complying with the standards for theobromine sodium acetate. Hoffmann-LaRoche Chemical Works, New York (*Jour. A. M. A.*, Jan. 29, 1916, p. 355).

PROPAGANDA FOR REFORM

PROTONUCLEIN AND PROTONUCLEIN BETA.—Eight years ago, the Council on Pharmacy and Chemistry published a painstaking and exhaustive report on Protonuclein and other products of Reed & Carnrick. This report showed conclusively that the whole theory of nuclein therapy was a tissue of speculation, into whose texture are woven only a few slender threads of fact. Now the Council reaffirms its former action with regard to Protonuclein. The objections to Protonuclein apply with equal force to Protonuclein Beta, said to be Protonuclein mixed with equal amounts of nucleoplasm and protoplasm of the spleen. In view of the lack of evidence the claims made for Protonuclein Beta were unwarranted. The Council, therefore, reports that it is ineligible for New and Nonofficial Remedies (*Jour. A. M. A.*, Jan. 1, 1916, p. 38 and 48).

THE COMPOSITION OF LIQUID PETROLATUM.—As naphthene hydrocarbons predominate in Russian crude petroleum and paraffin hydrocarbons in many or most American crude petroleum, it was assumed that the petrolatums derived from these sources differed from each other in like manner. While both the naphthenes and paraffins are chemically inert, some unexplained therapeutic superiority has been asserted to reside in Russian liquid petrolatum. Benjamin T. Brooks, of the Mellon Institute, explains that most so-called "mineral oils" used for therapeutic purposes contain no paraffin hydrocarbons whatever and that, regardless of the source of the crude petroleum, the fraction which constitutes the liquid petrolatum is composed essentially of naphthenes and polynaphthenes (*Jour. A. M. A.*, Jan. 1, 1916, p. 38).

STUART'S CALCIUM WAFER COMPOUND.—The A. M. A. Chemical Laboratory reports that Stuart's Calcium Wafer Compound, consists essentially of calcium sulphide and aloes or aloin. Like other so-called blood purifiers, it is essentially a cathartic (*Jour. A. M. A.*, Jan. 1, 1916, p. 51).

HYDROPSIN.—According to the Ernst Bischoff Co., Inc., Hydropsin is the juice of digitalis, squill, European birch, juniper and knot weed, dialyzed and physiologically standardized. The Council on Pharmacy and Chemistry reports that the composition claimed for Hydropsin brands it as an irrational mixture in which potent drugs are combined with, and more or less covered up by, others that are obsolete and inefficient. The name, instead of indicating its composition, suggests diseases in which it may be thoughtlessly and indiscriminately used. The claim that the danger of toxic or cumulative action has been removed, if accepted by physicians, tends to uncritical use with possible disastrous results (*Jour. A. M. A.*, Jan. 8, 1916, p. 135).

DIGITALYSATUM.—Digitalysatum, according to the Ernst Bischoff Co., Inc., is the dialyzed juice of fresh digitalis physiologically standardized and containing 12 per cent. alcohol. Sterisol-Digitalysatum appears to be the dialysate without alcohol diluted with equal parts of physiologic salt solution. The preparations are advertised with claims which imply superiority to all other digitalis preparations. The Council on Pharmacy and Chemistry holds that attempts to create the impression that Digitalysatum possesses all the virtues of digitalis without its chief disadvantage are to be condemned as likely to lead to incautious use of the preparation. The Council therefore declared Digitalysatum ineligible for New and Nonofficial Remedies (*Jour. A. M. A.*, Jan. 8, 1916, p. 135).

SO-CALLED SECRETIN PREPARATIONS.—At the request of the Council on Pharmacy and Chemistry Prof. A. J. Carlson of the University of Chicago has studied the action of secretin when administered by mouth or directly into the intestine and also investigated the secretin content of certain alleged secretin preparations. Carlson and his co-workers, like all previous investigators, found that secretin, when given by mouth or introduced even in enormous doses

directly into the intestine, is entirely inactive. Further, they were unable to demonstrate the presence of secretin in samples of Secretogen and another supposed secretin preparation (Duodenin) bought on the open market, except that one bottle was found which contained a little secretin. Carlson and his co-workers conclude that there is as yet no reliable evidence that lack of secretin is a primary or important factor in any disease and that, should this be established, secretin therapy, to be effective, must be intravenous. The Council endorsed the work of Professor Carlson (*Jour. A. M. A.*, Jan. 15, 1916, p. 178 and 208).

TIGER-BONE THERAPY AND "CLINICAL EXPERIENCE."—In China the administration of powdered tiger-bone is, or was, a favorite form of treatment of supposed cardiac weakness. Since many patients have recovered after taking tiger-bone and no one has proved that they might not have died had they failed to take it, "clinical experience" stands back of the treatment. Not satisfied with the assertion of the dealers regarding the genuineness of the drug the conscientious Chinese physicians subject the tiger-bone to a kind of physiologic standardization. He offers the bone to a dog. If it is an ox-bone—a frequent form of substitution—the dog will seize and eagerly gnaw it, whereas, according to the teachings of Chinese pharmacognosy, if it is a tiger-bone the dog will depart hurriedly with his tail between his legs. Much of our so-called clinical experience is not much better than that of the Chinese "clinical" evidence for tiger-bone therapy. Also, many physicians are wont to accept the statement of drug dealers without even making an attempt to check the claimed identity of the advertised remedy (*Jour. A. M. A.*, Jan. 15, 1916, p. 197).

MIXED ANTITYPHOID AND ANTIPARATYPHOID INOCULATION.—The use of any mixed vaccine is to be looked on askance. The simultaneous inoculation against typhoid, paratyphoid A and paratyphoid B needs further study in many directions. Reason and judgment at present would seem to approve the idea of using a mixed vaccine for the typhoid and paratyphoid infections. If a practical method of using this mixed vaccine can be devised, it seems to promise results (*Jour. A. M. A.*, Jan. 15, 1916, p. 193).

FULTON'S COMPOUNDS.—A "Bulletin" sent out by the promoters of Fulton's Renal Compound and Fulton's Diabetic Compound gives an account of the alleged good results of the treatment in the case of a Mr. J. J. Pennepacker. The columns of a local newspaper announce the amputation of this man's leg for diabetes (*Jour. A. M. A.*, Jan. 29, 1916, p. 373).

STRONTIUM BROMIDE.—The official bromide contains about two thirds as much bromide as is contained in potassium bromide and about three-fifths as much as that contained in sodium bromide. Hence it may be expected that the bromide action from strontium bromide will be much less than that of either potassium bromide or sodium bromide (*Jour. A. M. A.*, Jan. 29, 1916, p. 376).

STRONTIUM SALICYLATE NOT SUPERIOR TO SODIUM SALICYLATE.—In a series of carefully controlled trials, carried out in the Lakeside Hospital, Cleveland, M. A. Blankenhorn shows that strontium salicylate possesses no advantages over sodium salicylate as regards either therapeutic efficiency or freedom from undesirable by-effects. The salicyl content of strontium salicylate is about four-fifths that of sodium salicylate. This smaller salicylate content may have contributed to the notion that strontium salicylate is less likely to cause salicylism. This notion may have also arisen from the fact that the more expensive preparations are likely to be given in smaller doses than the cheaper sodium salicylate. That the strontium salt of salicylic acid has no advantages over the sodium salt, has also been pointed out in the report of the Council on Pharmacy and Chemistry on Rheumalgine (*Jour. A. M. A.*, Jan. 29, 1916, pp. 331 and 362).



LOVING CUP TO DR. WOODSON. THE INSCRIPTION READS, "PRESENTED TO DR. C. R. WOODSON, PRESIDENT MISSOURI STATE MEDICAL ASSOCIATION, 1915-1916, BY BUCHANAN COUNTY MEDICAL SOCIETY."



DOCTOR FRANK J. LUTZ, WHOSE INTELLIGENCE, FORESIGHT AND DEVOTION AS LIBRARIAN MADE THE ST. LOUIS MEDICAL LIBRARY. ERECTED BY MEMBERS OF THE ST. LOUIS MEDICAL SOCIETY, MDCCCLXXV.

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E. J. GOODWIN, M.D.,
EDITOR

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ORIGINAL ARTICLES

DIAGNOSIS OF PREGNANCY BY WAY OF THE URINE*¹

E. B. KNERR, Sc.D., M.D.
KANSAS CITY, MO.

In the issue of *The Jour. A. M. A.* of May, 15, 1915, Dr. R. H. Malone of Montreal describes a method for the diagnosis of pregnancy employing for that purpose the proteolytic powers of a pregnant's urine on placental substrate. Dr. Malone cites the work of the Japanese Kiutsi, who with the proper substrates claims to be able to diagnose cancer, tuberculosis, nephritis and other conditions, as well as pregnancy, by the proteolytic reactions of the specific urines on the appropriate substrates, in the several cases.

To test the practicability of the scheme I secured a number of urines from pregnant cases as well as urines from males, nonpregnant women and children, and passed them through Dr. Malone's technic. Practically all gave reactions in conformity to the known conditions of the cases. Only two in a series of thirty known positives and known negatives were doubtful, one a male urine which persisted in giving a reaction simulating a biuret, and one known pregnancy in which the color ring was so faint as to cast a doubt on its interpretation. Likewise certain steps in his technic in the hands of the unskilled are likely to lead to error. Because of these experiences I have instituted certain modifications in the technic suggested, and in the last hundred tests the results are uniform with the facts, and the color reactions are easily interpreted.

Briefly, my procedure is as follows: Two or three normal, fresh placentae are obtained, washed in a large vessel of normal saline solution until freed of all blood clots then in running water until the latter is quite free of blood.

With a sharp knife the more parenchymatous portion is separated from the more fibrous and passed through a finely cutting meat grinder. The minced material is floated in a good-sized pan of cold water and stirred. A piece of gauze or cheese cloth is held as a strainer over the edge of the pan and the bloody water drained through it, retaining the minced placenta in the pan. This process is repeated a number of times until the overflowing water is free of blood. Enough boiling distilled water is now added to cover the material well and the whole boiled for five minutes. This is decanted through the cloth as before and the boiling for five minutes repeated until the drained water no longer gives a biuret reaction. The material thus obtained is pressed between filter paper to remove excess of water, spread on dry filter paper and exposed to the drying of an electric fan until it is crumbly. Thereafter four or five hours in an oven at 80 C., followed by twenty-four hours at 50 C., will render it quite dry and stable, ready to be pulverized in a mortar and stored in stoppered bottles. This is the placental substrate and it contains the peculiar proteids susceptible to digestion by the specific enzymes present in the urine of pregnancy and in no other condition. These specific enzymes in solution in the urine, brought in contact with the placental substrate in suspension in the urine, will digest the specific substrate proteids to soluble peptones or other products capable of giving the biuret and ninhydrin reactions. In the absence of the enzymes there is no proteolytic digestion and no biuret reaction can be developed. Therefore urines of nonpregnants give no biuret reaction.

But the urine must be properly prepared. Failure to do so has been the occasion of much ill success among experimenters in this field.

Three specimens are secured: (a) from a case of known pregnancy; (b) from a known nonpregnant, male or female, child or adult; (c) from the case of unknown condition to be tested. Other experimenters have advocated the exact neutralization of the acidity of the

* From the Pathological Laboratory of the German Hospital.
1. Received for publication September, 1915.

urine, but I find that is unnecessary, inasmuch as the natural acidity of urine is mostly due to the acid phosphates, and because that much stronger solutions of acid phosphates than obtain in urines do not digest proteids to peptones. The chief purpose of neutralizing the urines has been to precipitate the salts that may come down later and interfere with the readings of the color reactions. In my technic these salts are cared for later in the procedure. On the other hand, if the urine is the least bit alkaline it will digest the substrate and will afford positive readings in the most impossible cases (males). Many failures have doubtless occurred right here. Alkalinity of the urine may have been overlooked, or in his effort to neutralize the urine the experimenter may have unwittingly overstepped the line and made it the slightest degree alkaline. I always make sure that the urine is at least slightly acid. In my earlier technic I also reduced the acidity of the urine by adding the requisite amount of decinormal sodium hydrate, but having found that unnecessary I proceed at once to the clarifying of the urine specimens.

To accomplish this I make use of the absorptive powers of finely pulverized best grade animal charcoal and kaolin, together with the coagulative properties of potash alum. A mixture is made of:

Powdered animal charcoal...50 parts
Powdered kaolin50 parts
Powdered potash alum..... 1 part

About 2 gm. of this mixture is added to 15 c.c. specimens of urine in 20 c.c. test tubes shaken vigorously for a minute or two and heated to boiling for a second, to precipitate any albumin present. I find that the brief boiling does not inhibit the diagnostic reaction. Filter, or centrifuge and decant the specimens into clean, marked test tubes. Test the clear liquid in each specimen for biuret reaction by the method given later in this paper. If positive, repeat the addition of the charcoal mixture with further shaking and separation until the biuret reaction is negative. The effect of the mixture is to clear the urine of most of its color so that the tints of the final end reactions are not confused. The adsorptive power of the kaolin removes all bacteria, thus doing much to eliminate bacterial action during the period of incubation.

Having the urine at this stage incapable of biuret reaction, the next step is to add the placental substrate. About a half gram of the finely pulverized substrate is added to each specimen and shaken vigorously in the test tubes. Care should be observed not to contaminate the contents of one tube with that of another by the use of the same unwashed

thumb to cover all tubes in succession. A layer of about 2 mm. of toluene is added to each tube, after which they are again well shaken, corked with cotton plugs, and stood in a water bath incubator at 37 to 40 C. for fifteen to thirty hours. I have kept negative urines prepared as above in the incubator for three days without developing the biuret reaction, so there is little danger of erring on the side of too-prolonged incubation. In positive pregnancy the reaction usually develops in twelve to fifteen hours, but is much more pronounced in thirty hours or longer. A water bath heated from below and covered with a perforated cardboard to receive and hold the tubes in place vertically is preferable to a closed incubator of any kind, for the reason that the conventional circulation maintained in the tubes by reason of the difference of temperature between the bottom and the top insures a continuous mixing of the urine and the suspended particles of substrate. Thus an even digestion is maintained the whole time the urine is in the incubator.

After fifteen to twenty hours, or more, portions of the specimens are filtered and about three c.c. of each filtrate is placed in three-eighths by 5-inch test tubes held parallel in the left hand. The tubes are then inclined to a low angle, almost horizontal, and one c.c. of the following biuret reagent slowly run into each tube from a pipette:

Copper sulphate crystals.... 0.5 gm.
Distilled water90.0 c.c.
Alcohol10.0 c.c.

(The alcohol is added to reduce the specific gravity of the mixture and cause it to float readily on the urine.)

After the addition of the reagent the tubes are carefully brought to a vertical position and the copper solution will be seen floating over the urine. While still held thus parallel in the left hand, 5 or 6 drops of a 25 per cent. sodium hydrate solution are left to fall separately into each tube and pass directly through the overlying layer of copper sulphate. Being heavy they carry the copper solution down with them into the urine, commingling as they go, and immediately produce the biuret pink to violet coloration. Centrifuge and decant to clean tubes. The tubes are viewed downward through their depths against a white background, and the contrasts are very distinct.

This is a much better way to make delicate biuret tests than the old method of developing a color ring to be viewed transversely because the deeper the liquid in the tube the more pronounced is the color and doubtful cases can be differentiated readily. A distinct color difference between the positives and negatives is usually distinguishable at once or in a few sec-

onds. The positives are pink to violet while the negatives are blue, green or yellow.

I have carried 200 urines through the above method, or slight variations of it, with very constant results and concordant with the clinically known conditions. Interested visitors to the laboratory, to whom I submitted the tubes for reading, had no difficulty in at once picking out the positives from the negatives. Among the urines tested against those of pregnancy were specimens from diabetics, cancer cases, tuberculosis, fibroid of the uterus, nephritis, healthy males, children and nonpregnant females. All were clearly negative.

As compared with the similar Abderhalden pregnancy test on the blood serum of the patient the procedure with urine has the immense advantage in simplicity and entire absence of annoyance to the patient.

German Hospital.

Note.—I am at present working the above technic on a series of cases of carcinoma, using the cancer tumor substrate in these instances in place of the placenta used for pregnancy determinations. The results thus far are equally encouraging for the purpose of diagnosis.

CHRONIC SYPHILITIC AORTITIS*

J. CURTIS LYTER, M.D. •
ST. LOUIS

In this short presentation I shall make no attempt to describe the acute inflammatory processes taking place in the aortic wall during the course of acute pneumococcus infection, acute rheumatic fever, the acute exanthemata or the acute mesarteritis seen during the secondary manifestation of syphilis. Each of these infections may be accompanied by an acute aortitis which presents no characteristic symptom-complex and is recognizable only by the patient being under close observation.

In chronic aortitis we have for our study the same etiologic factors as in general arterio-capillary fibrosis. Heredity, chronic hypertension, prolonged strain of emotional states, lead, alcohol, tobacco, caffeine, theobromin, gout, diabetes and obesity have been considered as etiologic factors in the degeneration of the arterial walls. The relation of each of these to the arterial changes, however, is far from being settled. Syphilis has long been recognized as the most frequent etiologic factor in arterial degeneration and especially in the aortic degeneration occurring before the age of fifty. Chronic aortitis with a secondary aortic valve disease occurring in a patient of sixty-five years

has an entirely different meaning, from an etiologic standpoint, from the same condition in a patient of forty-five. At the age of forty-five or under, in the absence of chronic lead intoxication, chronic glomerulonephritis or a distinct family tendency toward arterial changes, syphilis remains the only etiologic factor to be considered. We will consider then only the aortic changes which we have reason to believe are due to syphilis.

A more definite understanding of the pathology of aortic syphilis and the correct interpretation of the Wassermann reaction have assisted materially in promoting a more thorough understanding of aortic disease. Just when the treponema find their way to the aortic wall we do not know, but we can safely say that the evidence at hand permits us to believe that it occurs during the secondary stages in some cases while in others it may occur years later, and in some it never occurs. The ascending aorta is most frequently the seat of the infection, possibly because it is subjected to more pressure rendering the tissues more vulnerable and because the vasa vasorum supplying the arterial wall are larger in this portion than in any other portion of the arterial system, thereby making a fertile field for infection. The proximity of this portion of the aorta to the aortic valve determines to a great extent the clinical course of aortic syphilis.

The pathology seen in syphilis of this portion of the aorta differs very little from the pathology of syphilis elsewhere. The process is described by Adami as first an infiltration of the adventitia and media and later of the intima. This infiltration occurs as a circumscribed nodule or mass and extends peripherally. Microscopically, giant cells, epithelioid cells and the small round cells characteristic of syphilis are described and the treponema has been demonstrated by numerous pathologists.

As to symptomatology we may say that uncomplicated syphilitic aortitis usually manifests itself by a post-sternal discomfort or pressure or at times by actual pain, a systolic murmur over the aorta transmitted into the vessels of the neck and a definite lack of left ventricular hypertrophy. A positive Wassermann is of great value at this stage. The patient may not seek advice until one of three conditions develops:

1. Aneurysm.
2. Extension of the infiltration to the sinuses of Valsalva involving the openings and later the walls of the coronary arteries producing an endarteritis.
3. An extension of the infiltration to the aortic cusps. The production of aneurysm of course is a destructive process causing a loss of

* Read before the St. Louis Medical Society, September 25, 1915.

equilibrium between the pressure within the aorta and the resistance of the aortic wall. This, of course, is due primarily to a destructive process in the media, possibly primarily to the infiltrative process, obliterating the vasa vasorum, producing a malnutrition of the aortic wall thereby destroying the equilibrium. The symptoms of aneurysm are due to one of three conditions:

1. Cardiac decompensation resulting from an excessive amount of work being placed upon the heart, either from the dilatation of the aorta rendering it difficult for the heart to supply blood in a sufficient amount to the peripheral circulation or from an involvement of the aortic valve and aortic ring. Either of these will gradually decrease the field of cardiac response until finally symptoms of decompensation are present.

2. Pressure (a) upon a recurrent laryngeal nerve causing cough and hoarseness; (b) upon a bronchus causing cough, dyspnea, and giving the tracheal tug; (c) upon the esophagus, causing dysphagia and obstruction; (d) upon the cervical sympathetic, causing inequality of the pupils and unilateral face signs.

3. Rupture (a) into the thoracic cavity, producing hemothorax; (b) into the bronchus causing slight or profuse hemoptosis; (c) into the superior vena cava producing a very pronounced clinical picture characterized by extreme edema of the upper thorax, upper extremities and face.

During the prepressure stages of aneurysm there may be no symptoms unless the aortitis has involved the coronary arteries, the aortic cusps or unless the dilatation of the aneurysm has involved the aortic ring. In case this does happen there will be symptoms of coronary occlusion or aortic regurgitation as discussed below.

Symptoms of cardiac decompensation may be very pronounced during the late stages of aneurysm and at this time the physical examination must not only reveal an increase in the post-sternal dullness, a systolic murmur, some of the signs of pressure, but probably a diastolic murmur of aortic insufficiency, and certainly we must be able to demonstrate a left ventricular hypertrophy commensurate with the destructive process in the aorta. The fluoroscope and the roentgenogram assist materially in establishing this diagnosis.

The second result of syphilitic aortitis which causes a patient to seek relief is an extension of the infiltrative process to the sinuses of Valsalva involving the openings and later the walls of the coronary arteries, thereby occluding the arteries at their openings into the aorta and producing an obliterating endarteritis in the arteries and their branches. Either of these conditions will,

according to McKenzie, cause a disturbance of the nutrition of the myocardium and will manifest itself by a precordial pain. This pain rarely appears unless the patient is in some effort, and radiates to the back, neck, throat, stomach or down either arm or leg. This pain may be described as merely a discomfort or it may be intensely agonizing, and where the occlusion is more or less complete and sudden it may cause a short transitory convulsion or even sudden death.

When the coronary is more or less completely occluded and collateral circulation is not established because of the associated endarteritis, we observe the condition of myomalacia cordis in the area supplied by that particular coronary or its branch. In this case we are able to hear a to-and-fro friction rub over the precordium due to the process extending to the pericardium on which there may be found a fibrinous deposit.

The diagnosis of coronary involvement in aortic syphilis rests entirely on the presence of the characteristic pain, a systolic murmur over the aorta itself and the Wassermann reaction or the intradermal luetin test. These, taken in conjunction with the age of the individual are usually sufficient to establish the diagnosis firmly. Taking the blood pressure is of no value in these cases unless there is an associated arterio-capillary fibrosis.

The third condition to produce grave symptoms in syphilitic aortitis is an involvement of the aortic cusps and the aortic ring by the infiltrative process. This occurs by glueing the cusps to the aortic wall by a deposit between the cusps and the wall thereby producing aortic regurgitation. Where the aortic ring becomes greatly infiltrated or the cusps become adhered one to another there is also aortic stenosis. These conditions are recognizable by the usual signs or regurgitation or stenosis and again the presence of a positive Wassermann is of great importance. I think it is an accepted opinion, however, that where aortic valve disease alone is present in a patient under fifty years of age syphilis is the etiologic factor.

As to treatment of these patients the usual antisyphilitic measures should be vigorously instituted. In case of aneurysm the most vigorous treatment is of comparatively little value. In coronary involvement alone we should expect great improvement by prolonged treatment. In aortic valve disease the patient is at least improved and may seem comparatively well for some time.

Bearing in mind that these patients rarely seek relief until some of the extensive processes are recognizable an absolute cure is not to be expected. They usually die of some of the accidents of aneurysm or cardiac decompensation.

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DISCUSSION

DR. W. P. ELMER: In the diagnosis of syphilitic aortitis it is first essential to diagnose the aortitis and later to determine the causative factor, if it be syphilis or not. The points that are by far the most valuable in making this diagnosis are, first, a rough systolic murmur heard best over the second intercostal space on the right, sometimes over the sternum. This murmur, usually rough, grating in character, sometimes soft, may be due to one of three causes: (1) a mitral stenosis, which can be ruled out rather quickly by careful examination of the pulse; (2) roughening of the cusps without insufficiency, which is usually of luetic origin in individuals under 50, and (3) roughening of the intima of the aorta. Either one of the latter two conditions is usually syphilitic and it makes very little difference in the diagnosis whether it is in the intima or in the aorta or at the edge of the valve cusp.

The second point is the Roentgen ray. Luetic aortitis rarely goes on for more than a few weeks without at least some broadening of the first portion of the aorta. That need not be, strictly speaking, an aneurysm, but simply a giving way of the first portion of the aorta so that with the Roentgen ray we find a broader area through the aortic region. I think probably we will get more value from careful study of Roentgen-ray plates in conditions of this sort than from any other source.

The rough systolic murmur plus the Roentgen-ray plate in an individual under 50 at least suggests a subacute or chronic aortitis. If, then, we wish to go further in our diagnosis and determine what is the cause of this aortitis a Wassermann test is imperative. A positive Wassermann will be found probably in between 75 and 80 per cent. of cases, and in some series even a larger percentage is observed.

Another test which very frequently proves of considerable value is the administration of antiluetic treatment used for diagnostic purposes. There are at least 5 per cent. and possibly more cases of luetic aortitis which do not give a Wassermann reaction even with the most careful technic. These cases placed on mercury—the mercurial ointment—in rather considerable concentrations, say the 50 per cent., over a period of six, eight or ten weeks, usually show relief of symptoms and sometimes we will notice even a considerable difference in the Roentgen-ray plates if they are carefully made and compared. In patients over 50 neither the Wassermann nor the treatment with mercurial ointment is so likely to yield results. Out of some twenty or twenty-five cases under observation in private practice and at the City Hospital in the last ten months, I can say that the results are better than I was led to expect. Not being particularly an optimist in that line I have entered on this field of observation without expecting anything very remarkable but certainly in a few cases remarkable results followed and in at least 75 per cent. there was noticeable improvement.

DR. GEORGE RICHTER: Statistics generally state that as a result of syphilis aortic stenosis is particularly rare. The differential diagnosis between the roughening of the systolic sound and aortic stenosis is not always easy. A point of considerable interest—if it is not very practical today it is to be hoped that it will become more practical in the future—is the question of how the syphilitic inflammatory condition of the arteries originates. It is generally believed that the spirocheta will attack the artery which supplies the walls—the vasa vasorum—but if we consider that a great many infectious diseases are really due to a disturbance of the lymphatic system, that particularly syphilis is localized in the first place in the lymphatic system, that the lymphatics elsewhere are particularly affected, then we must take it that

possibly it is the lymphatic circulation, if we may call it that, within the walls, which is in the first place attacked and not the capillary. Spirocheta do not really circulate in great numbers in the blood and this is the real reason why the Wassermann reaction is often negative.

The pathology of the lymphatic system is an unknown territory. It has not been studied as far as I know—I am no pathologist—but from what I can glean from the literature it has not been studied really since the time of Huether about forty years ago. He showed how abscesses will form along the lymphatic vessels and that abscesses will rarely penetrate the sheath of a muscle. We know also that typhoid is located chiefly in the lymphatic system and its bacillus does not circulate in the blood very abundantly. Closer study of the lymphatic system from the standpoint of pathology is what we need. The amazing lack of result from intravenous treatment in many cases is due to the fact that the pathologic condition is not essentially in the blood and that the pathologic factors are present in the lymphatic system. It is another reason why we find so much difficulty in attacking a cerebrospinal syphilis. I understand that spirocheta in the brain are located rather distant from the capillary; therefore the drug does not reach the base and our failure in relieving aortitis and cerebrospinal syphilis is because we have tried to attack the enemy where he is not. If we could succeed in attacking the enemy where he really exists, that is in the lymphatic system, we should make greater progress in this problem.

DR. J. C. LYTER: I think we will agree with Dr. Elmer that it is practically impossible to make a differential diagnosis between the roughening of the aortic cusps themselves and a roughening of the lining of the aorta. In aortic stenosis, however, I believe one feature in differentiating between aortic stenosis and the aortitis is the lack in aortitis of a left ventricular hypertrophy. I do not believe it is hardly possible for an aortic stenosis of any grade to be present very long without a hypertrophy of the left ventricle; and by laying the patient in the left lateral position and palpating the apex we can feel the hypertrophy as well as percuss it out in most patients.

Dr. Neilson discussed aortic stenosis due to the valves being glued together or due to the aortic ring being very much infiltrated. I believe pathologists today agree that the way syphilis of the aorta eventually involves the aortic valve, in case it has not involved the aortic valve first, is by a deposit between the aortic cusps and the wall in the sinus of Valsalva gluing the aortic valves back, producing an insufficiency. An infiltration of the aortic ring is characteristic of syphilis, producing thereby an aortic stenosis.

I believe all cases of aortic syphilis sooner or later manifest pain but it has always been a question in my mind whether this angina is due to the infiltration of the wall itself or is produced as the infiltration extends down and involves the orifices of the coronary vessels.

I spent five or six weeks in Dr. Case's clinic, where he uses the fluoroscope extensively every day on the chest and if all the cases that we saw of young people who had dilated aortas under the fluoroscope had syphilis, then nearly every one has syphilis of the aorta. In my observation nearly every patient who comes up for a chest fluoroscopic examination has a more or less dilated aorta. It is very valuable in aneurysm but I do not know whether or not I would attach much significance to it in the diagnosis of aortic syphilis previous to the destructive processes.

I believe the neurologists will agree with me that in a great majority of our cases of syphilis of the nervous system, we find an aortic murmur without

any ventricular hypertrophy or other physical signs that would lead us to believe an aortic stenosis is present. That aortic disease has manifested no symptoms at all. I have noticed those cases time after time and in one of the hospitals in Boston that I was visiting some time ago I asked the physician in charge of the ward if he had noticed it; he said "We have noticed it so much that wherever we find a patient with aortic syphilis we order a spinal puncture in hopes of heading off tabs." A great many of my cases with tabs or other manifestations of syphilis in the central nervous system have conditions over the aorta which I considered were due to aortic syphilis, but which had produced no pain. So that is another reason that has forced me to believe that a syphilitic aortitis produces pain rarely unless it extends down and involves the coronary arteries.

PROGRESS IN PEDIATRICS FOR 1915*

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INFANT FEEDING AND METABOLISM

Of definite value to the practitioner are the two books on infant feeding, one by Grulee¹ and the other by Morse and Talbot.² All the recent literature concerning infant metabolism and recent methods of feeding are comprehended in these exclusive works and should be read thoroughly by all who are interested.

Brown and Fletcher³ have made some interesting observations on the occurrence of tetany in young children. They find that spasmodophilia is seldom found in the summer months when there is a tendency to diarrhea. In diarrheal stools the excretion of sodium and potassium salts is increased eight to ten times, while the calcium and magnesium salts are not changed. Sodium and potassium increase the nervous irritability of a child while calcium and magnesium counteract it. Constipation then decreases the elimination of the irritating salts, sodium and potassium and the various symptoms of the convulsive state are increased. This occurs more often in children fed on cooked foods with a high percentage of carbohydrates. There is a retention of water and sodium chlorid. The authors have offered a practical treatment in the use of magnesium sulphate subcutaneously to control the spasms. The food is changed by taking away a part of the whey which contains the irritating salts. The calcium content is built up by the administration of cod liver oil and phosphorus. Urea was found to be the most useful diuretic in this condition in doses of 1 gm. of the organic diuretic urea. Castor oil for its purgative action was found to be of distinct benefit.

* Read before the Jackson County Medical Society, Kansas City, Jan. 4, 1916.

1. Grulee: *Infant Feeding*, W. B. Saunders Company, 1914.
2. Morse and Talbot: *Disease of Nutrition and Infant Feeding*, The Macmillan Company, 1915.

3. Brown and Fletcher: *Amer. Jour. Dis. Child.*, November, 1915, p. 313.

Bartholow⁴ flays the pediatricist and other specialists who condemn condensed milk because of professional prejudice. He commends the French clinicians who prescribe it sensibly and are not afraid to use it when they find it necessary to the wellbeing of an infant that has an antiphylaxis toward breast or fresh cow's milk. He admits that not all condensed milk on the market is good but asserts that if condensed milk be manufactured in accordance with modern standards of knowledge of the necessary percentages which it should contain for infant feeding greater progress would be made.

BREAST MILK

A recent contribution by Holt and associates⁵ emphasizes the need in the examination for large individual samples. After the first month of lactation, the composition of human milk does not vary, though it declines in quantity and the solids with the exception of sugar slightly decrease. There is least variation in the sugar of any of the components of milk. Sugar is present in somewhat higher percentage than usually given, and is about 7.5 per cent. The fat does not vary markedly during the various periods of lactation, but fat varies more than any other constituent in different individuals. In mature milk the protein is seldom higher than 1.25 per cent., one-third casein and two-thirds lactalbumin. The sodium salts show the greatest variations in different individuals and at different periods of lactation, the calcium salts seldom vary in any individual or at any period. Potassium and calcium comprise more than half of the total salts in woman's milk.

DIGESTIVE DISTURBANCES

An interesting report by Smith and Cobb⁶ on the necropsies performed on 100 infants at the Boston Floating Hospital, showed a striking number of the infants with fatty livers, which were found in the healthiest and best nourished subjects, and not in those who had been the victims of chronic wasting diseases. Those who died of acute diseases therefore, from a short illness, show the presence of a large amount of fat in the liver. Smith and Cobb believe that a fatty liver is the normal condition in infancy because the liver as a reservoir for fat has been stored with much of it from the milk which forms the diet of infants.

SUMMER DIARRHEA

The experiences in Boston, according to Kendall,⁷ indicate that certain organisms causative of summer diarrhea are epidemic and dominant during certain years. For instance, during 1910, the dysentery bacillus was the most usual

4. Bartholow: *New York Med. Jour.*, Feb. 20, 1915.

5. Holt, Courtney Fales: *Amer. Jour. Dis. Child.*, October, 1915, p. 229.

6. Smith and Cobb: *Arch. Pediat.*, June, 1915, p. 434.

7. Kendall: *Boston Med. and Surg. Jour.*, June 10, 1915.

organism causing severe diarrheas in children. There were few of these cases in 1911, during which year the streptococcus was the most frequent. In 1912 these two organisms were not common, while the gas bacillus was dominant. In 1913 the capsulated bacillus proved to be the etiologic factor in the epidemic cases. Late in the summer, Kendall states the type of organism is different and is usually the one to appear the following summer. Sugars in the infant's food are well borne and have a curative rôle in dysentery cases, except in gas bacillus dysentery when protein foods are to be used.

A confirmation of the work of Kendall is found in the report of Sylvester and Hibben⁸ in which the scientific basis is given for determining the cause and treatment of bacterial intestinal disturbances. The stools are tested in a sugar medium wherein the gas bacillus, if present, will evolve gas of varying amounts depending on the number of bacilli and spores present. They found that the gas bacillus is not a normal resident of the healthy breast-fed infant, but is present in bottle-fed infants and that lactic acid is antagonistic to the growth of this organism. They prefer to use lactic acid milk rather than lactic acid culture. The treatment is as follows: In a diarrheal case give an initial dose of castor oil, then for the first twenty-four hours use exclusively a 5 per cent. solution of lactose during the determination of the presence of the gas bacillus. If the dysentery bacillus is the causative organism, a food high in sugar is given. If the gas bacillus is found, the lactic acid milk, high in protein and low in sugar, is the rational food. Twenty-nine out of thirty-one cases of infectious (gas bacillus) diarrhea, became well in a maximum of five days. There were some cases of mixed gas and dysentery bacillus infection. These cases did not do well. All cases of dysentery showed after improvement a marked intolerance for fat during the succeeding weeks and months, making necessary the continuance of a fat-free lactic acid or other milk. The authors conclude that the gas bacillus is not normally in the intestine, that it is pathogenic for certain cases of infectious diarrhea, fat intolerance, carbohydrate intolerance and chronic intestinal indigestion.

In summer diarrhea, Knox and Ford⁹ found the gas bacillus present in the stools of all of eighteen children without marked intestinal disturbances, but not in the seven breast-fed infants examined. They think the gas bacillus is a normal and constant inhabitant of the intestinal tract of all children except breast-fed infants. Only when there is excessive development of the gas bacillus can any pathologic significance be attached to their presence in the intestine.

8. Sylvester and Hibben: *Arch. Pediat.*, June, 1915, p. 457.

9. Knox and Ford: *Johns Hopkins Hosp. Bull.*, January, 1915, p. 27.

INTESTINAL DISEASES

INTUSSUSCEPTION

There has been a remarkable reduction in the deaths from intussusception at the Children's Hospital in Boston, as reported by Ladd.¹⁰ Before 1908 that hospital had operated on eight cases with one recovery. The mortality at the Infants' and the Massachusetts General Hospitals had been equally high. Since 1908 the total statistics at the Children's Hospital show of the operated cases, 32 recovered and 31 died, but in the last 19 operations 15 have recovered, a mortality of 21 per cent. Ladd believes that the history obtained from the parents is important enough to furnish sufficient evidence for operative procedure. The typical and constant history from the mother is as follows: The baby, nearly always under 2 years, had been perfectly well until suddenly attacked by pain, became pale and soon vomited. Thereafter the baby was at intervals almost well in appearance, with intermittent pain, crying and drawing up of the legs. A normal appearing stool was first passed, but in five or six hours a stool mostly blood was passed, vomiting occurred several times and food was refused.

In the first twelve hours tumor can be felt, owing to slight distention. At the end of the first twelve hours four cases were operated on with no deaths, at the end of twenty-four hours eighteen cases operated on with three deaths and thereafter the death rate increases so that after sixty hours there was a mortality of 88 per cent.

PYLORIC STENOSIS

At a meeting of the newly organized Central States Pediatric Society in Chicago, Alfred A. Strauss presented a novel and what seems to be the most efficient method of dealing with pyloric obstruction in infants. He classifies the disease as follows:

1. (a) Large tumors with almost complete compression of mucous membrane and complete obstruction. (b) Small amounts of hypertrophy of muscularis, but with almost complete compression of the mucous membrane, and complete obstruction.

2. (a) Large tumors, with only partial compression of the mucous membrane, and only partial obstruction. (b) Small amount of hypertrophy of muscularis, with only partial compression and only partial obstruction.

He demonstrated that the mucous membrane can easily be shelled out by everting the muscularis. He has done fifty-six pyloric operations by this method. He found that there is a temporary paresis of the pylorus which lasts for from two to twelve weeks. When the mucous

10. Ladd, William E.: *Boston Med. and Surg. Jour.*, December 9, 1915, p. 879.

membrane is separated from the muscles, he separated Meisner's from Auerbach's plexus which accounts for the paresis of the pylorus. He cuts down to the mucosa, shells it out, which reduces the folds of the infolded mucous membrane. The second part of the operation is to reconstruct the hypertrophied muscle to its normal thickness. This can be done by cutting away the inner circular layer or utilizing it as a plastic flap. The incision in the abdomen is very small, the pylorus is brought up to the wound with a hook, thus saving time and thereby shock. The operation reconstructs a diseased pylorus to a more normal pylorus so that the child continues to use a normal route for food passing from the stomach to the bowel.

We saw several children on whom he had operated and the results seemed to be perfect and the scar very small. The infants were fed within a few hours following the operation.

INTESTINAL PARASITES IN CHILDREN

Although the laity is disposed to regard worms as the cause of many disorders in children, the profession is inclined to be conservative or skeptical regarding the frequency of parasitic infections. Possibly the statement in Holt's textbook that such are comparatively rare is responsible for some of this conservatism. In the last few years, however, a few observations have been made which show that routine examination of stools in certain institutions and in certain communities reveals the presence of eggs and parasites in a fairly high percentage of children. Many of these are well and show no suggestive symptoms. Greil¹¹ in a routine search for parasites in 665 children living in the section around Montgomery, Ala., found 36.1 per cent. infected. As would be expected hookworms were the most common, but 10 per cent. of the children had other varieties of worms, the most prevalent being *Hymenolepis nana* and the *Ascaris lumbricoides*. Less than 1 per cent. had pin worms.

GENITO-URINARY DISEASES

Zahorsky¹² concludes that the ammoniac odor so frequently observed on the diapers of infants with constipated or normal stools, comes from the ammonium compounds in the urine liberated by the alkali which is present in the imperfectly rinsed diaper. The alkali which has been retained in the diaper comes from soap, lye, lime or from the stool.

Sedgwick¹³ has found that oxalic acid is excreted in the urine of newborn infants as high as 9 mg. daily and in older children the excretion

is higher than in adults. It is found when on an oxalic acid free diet from carbohydrate fermentation or from an endogenous metabolism.

Hempelmann¹⁴ measured the renal function by the phenolphthalein tests and found that children with orthostatic albuminuria, show a marked reduction in the output of phenolphthalein during the period of albuminuria, while normal children in the same position of marked lordosis do not show any decrease in elimination. He favors the idea that this substantiates the theory that lordosis decreases the vascular supply to the kidney.

Forty infants less than 2 years of age were examined by Kowitz¹⁵ for bacterial involvement of the urinary tract. Boys and girls were about equally affected. All indicated a close connection with disorders of the alimentary tract, and the organisms were colon bacilli, thought by the author to be carried by the blood. He thinks the name of pyelocystitis is not applicable, but that it should be called a bacterial nephritis or colinephritis of small children. One investigator (Bahr) recovered bacilli from the blood of 117 out of 120 cases of digestive disorders in infants.

Ross¹⁶ reports forty-three cases of bacillus coli infection of the urinary tract in children of which thirty-six were females. It most commonly accompanies an infectious process in the alimentary tract, but he has found it in diphtheria, lobar pneumonia, relapsing pneumonia, pneumonia with measles, migraine, tuberculous peritonitis with measles and miliary tuberculosis.

In nineteen other cases the infection of the urinary tract was due to the bacillus proteus vulgaris, which is usually a saprophyte. These complicated various diseases such as summer diarrhea. More boys than girls were found.

RESPIRATORY INFECTIONS

For establishing the diagnosis of influenza, Holt¹⁷ says the organisms must be found in the secretions usually occurring in the bronchial secretions. Smears are unreliable. Cultures should be made and only media which contains hemoglobin will grow the bacilli influenzae.

The most significant manifestation of influenza, according to Holt, is the wide variations of temperature. Pneumonia or otitis would be the first conditions confused with it. There is much in a case of protracted influenza to resemble whooping cough, especially when several members of the family have it. In the differential count while both have a leukocytosis, the polynuclears in influenza with bronchitis rises to 70 per cent., while in whooping cough there is a very high lymphocyte percentage.

14. Hempelmann: Amer. Jour. Dis. Child., December, 1915, p. 418.

15. Kowitz: Jahrbuch f. Kinderheilk, Berlin, October, lxxxii, No. 4, p. 261.

16. Ross: Lancet, March 27, 1915, p. 654.

17. Holt: Arch. Pediat., October, 1914, p. 724.

11. Greil: Amer. Jour. Dis. Child., November, 1915.

12. Zahorsky: Amer. Jour. Dis. Child., December, 1915, p. 436.

13. Sedgwick: Oxalic Acid Excretion in the Urine of Children, Amer. Jour. Dis. Child., December, 1915, p. 414.

DISEASES OF THE OSSEOUS SYSTEM

An interesting rare condition is reported by Herrman¹⁸ in which brittle bones are associated with a blue tinging of the sclera. It is an hereditary and familial disease. The relation of the blue sclerotics to fragility of the bones was first mentioned in 1900. In 1911 a series of cases were reported in one family in which out of twenty-nine individuals, thirteen had blue sclerotics and seven of these had multiple fractures. In Herrman's cases the bones were shown by Roentgen ray to lack normal density. The sclerotic has a pale azure or porcelain blue, sometimes a leaden blue. The fibrous tissue of the sclera is thin and the fibers deficient in number. There is no pigment present, but the tissue is unusually translucent so that the brown-black choroid in shining through the sclera causes a color interference. The author concludes that there is lack of lime salts of actual calcification and ossification. All connective tissue in the body lacks density.

Truesdell¹⁹ has made observations on the late results in birth fracture of the humerus at the New York Lying-In Hospital. In twenty-four fractures occurring in twenty-one infants there was deformity more or less extreme. In the subsequent radiographs there has been a uniformly progressive cure of the deformity by Nature until the bone previously fractured could not be told from the one on the opposite side of the body. Most of the fractures occurred during version with breech extraction. The treatment has come to be simply a fixation of the injured arm at the side of the body by a broad swathe of adhesive plaster around that side of the chest, the hand approximating the opposite shoulder. There has never been failure of union. Musculospinal paralysis is usual but temporary. Deformities are eliminated within two years, though there had been much displacement of the fragments.

In discussing scurvy, Brown²⁰ concludes that subperiosteal hemorrhage may be present though not shown by radiograph, for recently extravasated blood is not very radiable and is shown only when well advanced and the clot organized. He states that the "white line" at the junction of the epiphysis and diaphysis is the first evidence of scurvy. This is shown by the Roentgen-ray plate. A high temperature with marked increase of the polynuclears occurs in late and severe cases, and apt to be confused with pus. Scurvy, rickets, tetany and beriberi are closely associated in production due to the disturbance in the balance of mineral salts.

Congenital depressions of the skull are not often seen and have no great significance,

according to Goodman.²¹ The parents often think that the child has been roughly handled during labor or afterward. It is due to intra-uterine conditions, probably from an anomaly in the mother's pelvis and from softened fetal bones of the head. The depressions are usually in the parietal bones, and are usually spoon-shaped or angular. There is no symptomatology, and the depressions are usually filled out by the third or fourth year.

CHOREA

In an exhaustive article on chorea, Mackenzie²² concludes that sodium salicylate, aspirin or antipyrin are the most useful drugs. Arsenic was not found so useful. In violent nervous cases hyoscin had to be used to produce rest. Drugs form only a small part of the treatment. Complete body and mental rest is necessary, with bathing for fifteen minutes twice a day, light diet and much milk and bowels kept open. After chorea the child should not return to school for many months. The best treatment is prophylactic at the time of the first indication of motor disturbance.

CONTAGIOUS DISEASES

During the course of diphtheria, especially in a case of late antitoxin administration, one is anxious about the condition of the heart. Hume and Clegg²³ assert "that any form of arrhythmia of the heart (except sinus arrhythmia) in diphtheria indicates that the heart muscle or nerves are involved in a pathologic process, however mild the illness may otherwise appear to be and that special cautions are necessary to keep the patient recumbent."

Anything that aids in the early diagnosis of transmissible diseases so that the case may be promptly isolated is of undoubted value. Herrman²⁴ has found that about 40 per cent. of measles cases show specific tonsillar spots as early or earlier than Koplik's spots in the mouth. These spots must be looked for in a good light and they vary from two to thirty in number, from a pinpoint to a pinhead in size, round or irregular streaks, from a bluish gray to white. They are found very early and remain visible from one to three days.

Measles is capable of transmission after the appearance of the prodromal symptoms. This may be as early as five days before the cutaneous rash, according to Gray.²⁵ The height of the transmissibility is at the time of the appearance of the rash, and does not extend beyond seven days following the outbreak of the rash.

21. Goodman: *Arch. Pediat.*, August, 1915, p. 587.

22. Mackenzie: *Glasgow Med. Jour.*, June, 1915.

23. Hume and Clegg: *A Clinical and Pathological Study of the Heart in Diphtheria*, *Quar. Jour. Med.*, Oxford, October, 1914.

24. Herrman: *Amer. Jour. Dis. Child.*, October, 1915.

25. Gray: *Jour. Infect. Dis.*, November, 1915, p. 559.

18. Herrman: *Amer. Jour. Dis. Child.*, March, 1915, p. 205.

19. Truesdell: *Arch. Pediat.*, September, 1915, p. 669.

20. Brown: *Arch. Pediat.*, October, 1915, p. 744.

Zingher²⁶ has noted the beneficial effects at the Willard Parker Hospital from the injection of fresh human convalescent blood to cases of severe scarlet fever. Six to 8 ounces of blood given twice at four or five day intervals from scarlet fever convalescents have proved of life-saving value. The donor must be free from syphilis and tuberculosis. In the late septic cases he advises the use of fresh normal blood from a parent or relative. The injection is made intramuscularly. The blood after withdrawal is immediately citrated by the addition of 1 c.c. of a 10 per cent. sodium citrate solution to each ounce of blood and then immediately injected. Convalescent blood will not keep after a month or two in the icebox, so that fresh blood is preferable.

The question of immunizing children against measles is considered by Herrman.²⁷ He thinks it is worth while because the mortality in the registration area alone of the United States, reported 44,080 deaths in the decade from 1900 to 1910 and because 95 per cent. of the population are infected at some time. Infants under 5 months are relatively immune. Most all other children contract the disease. Under 2 months there is an absolute immunity. Infants 6 or 7 months old have very light cases. One attack of measles usually protects for life. Herrman inoculated forty infants under 5 months of age with mucus from the nose of measles children, otherwise healthy, twenty-four hours before their eruption appeared. Most of the infants showed no marked reaction, fifteen had a rise of temperature, 100 to 101 degrees F. coming on from the eighth to the fourteenth day. In a few cases a small number of spots were seen on the face or body at that time. Of these forty cases, four over 1 year of age have since come in contact with measles and have not contracted it. Two others were reinoculated at about 2 years of age and did not react.

POLIOMYELITIS

The relation of the organism causing experimental poliomyelitis to the disease of infantile paralysis is considered by Flexner²⁸ to be a direct causative one. The micro-organism cultivated from poliomyelitis tissues is a globular or oval one of very minute size and is filterable. The organism taken from the nervous tissues and kept for over a year, cultivated through many generations and dilutions when inoculated into monkeys is capable of causing a disease in monkeys accurately resembling the disease in children.

Flexner believes that it is possible, but highly exceptional for the stable fly to withdraw the

virus from the blood of the monkey and inoculate a healthy monkey which later shows the symptoms and lesions of the disease. A watery filtrate from the bedbug which has bitten an infected monkey injected into a monkey has caused the disease, but Flexner believes that these are highly exceptional infections. He states that the virus of the disease has been shown to enter and leave the infected person by way of the nasopharyngeal mucous membrane, not only in marked cases in children, but in the slight or so-called abortive cases and in healthy persons in intimate contact, even after several months. The patients who are not seriously ill form the greatest menace as carriers by discharging the microbes from the throat and nose secretions. The human subject, he thinks, possesses a high degree of immunity to the infecting organisms of poliomyelitis which explains the sporadic appearance of cases.

EPIDEMIC CEREBROSPINAL MENINGITIS

Fearis²⁹ has devised an instrument for swabbing the upper part of the nasopharynx which is the region favorable for the growth of the meningococcus. He uses it in examining the nasopharynx of contacts in epidemics of meningitis. It is necessary that in swabbing there shall be no contamination by the other bacteria of the mouth and fauces, that no injury be done to the tissues, and that the swab be accurately smeared over the surface of the Petri dish medium such as nasgar. A flexible spiral spring with swab on the end is fitted and hidden in a metal cannula so that it can be exposed when in position in the nasopharynx, immediately withdrawn into the cannula, and then removed from the mouth to the Petri dish and the media inoculated, placed in the incubator at 37 C. and later examined.

CONGENITAL SYPHILIS

The effect of combined use of neosalvarsan and mercury on the Wassermann reaction in congenital syphilis is as yet uncertain, but a recent report by Findlay and Robertson³⁰ gives fifteen negative reactions in forty-three cases at the conclusion of treatment. In six cases this was still negative from six to fourteen months after the last injection.

Comparatively little positive knowledge exists regarding the disappearance of a positive Wassermann in hereditary syphilis as a result of treatment. Findlay³¹ comes to the conclusion in handling congenital cases that neosalvarsan intravenously, possibly in small doses, once or twice a week, with inunctions of mercury is the most efficient treatment so far as the mortality is concerned. In sixteen out of forty-three cases

26. Zingher: Jour. Amer. Med. Assn., Sept. 4, 1915, p. 875.

27. Herrman: Arch. Pediat., July, 1915, p. 503.

28. Flexner: Johns Hopkins Hospital Bulletin, May, 1915, p. 180.

29. Fearis: British Med. Jour., May 29, 1915, p. 927.

30. Findlay and Robertson: Quar. Jour. Med., Oxford, January, 1915, p. 175.

31. Findlay: Glasgow Med. Jour., May, 1915.

so treated the Wassermann reactions became negative and remained so.

Findlay advocates the antenatal treatment of pregnant women by intravenous neosalvarsan and mercurial inunction as having the greatest influence on the disease in the baby. This is a subject that can well be considered by obstetricians and pediatricists.

TUBERCULOSIS

TUBERCULOUS GLANDS

D'Espine's sign is the presence of the whispered voice in the interscapular space and over the upper thoracic vertebrae. Whispered bronchophony has been known in physical diagnosis for some time, but lately it has been accorded a place of definite diagnostic value in children with hilus disease, especially tuberculous bronchial glands. Stoll³² concludes that it is suggestive of tuberculous inflammation of the tracheobronchial glands when found in a delicate child with other evidences of clinical tuberculosis. The sign is elicited with the child sitting, the head bent forward, arms folded across the chest and the stethoscope firmly pressed over the upper thoracic vertebrae and to either side in the interscapular space. The patient whispers "three thirty-three" or the word "tree." The final "e" of the word is heard prolonged as an echo.

TUBERCULIN REACTION

Studies on the cutaneous tuberculin reaction in children are still frequent in the literature. Most investigators are agreed that it is rare to find a reaction in the newborn. Fishberg³³ thinks from the agreement in the number and proportion of the children reacting to tuberculin and who show tuberculous changes in the body that the reaction is specific. In the first five years of life Wollstein found 13.5 per cent. of tuberculous changes in 1,320 necropsies. Burkhardt found 28 per cent. Other investigators found about the same. The number of reactions to tuberculin during the first five years in Fishberg's 588 apparently healthy children of nontuberculous parentage was about 25 per cent. From five to fourteen years 61.4 per cent. react. These are children in New York tenements. European figures are higher than these. The reaction shows whether a person has ever been affected, but most of these infections are harmless as they are not enough to cause phthisis. The large number of healed lesions on necropsy proves that tuberculosis usually heals spontaneously with mild infections in infancy and is an immunizing process, while later infections are apt to cause rapidly developing hematogenous tuberculosis with fatal outcome, such as tuberculous meningitis, acute

miliary tuberculosis or acute tuberculous pneumonia.

Children who gave a positive tuberculin reaction during their stay in the Massachusetts General Hospital and who had at that time no suspicion of tuberculosis were followed up thereafter for periods under 4 years by Rogers.³⁴ These cases showed that before the age of 2 years a positive skin reaction seems to indicate that the child's life is apt to be short. The mortality among children up to 10 years of age who react to the von Pirquet test is much higher than that of normal children.

EAR, NOSE AND THROAT

A NEW TONSILLAR AFFECTION

In the *American Medical Association Journal* of Feb. 20, 1915, A. B. Middleton, M.D., reports a tonsillectomy in a child of 8 years. The child had been ill for six years with anemia, malnutrition, adenoid symptoms, etc. Every three weeks she had so-called bilious attacks, but never a sore throat, though she was a mouth breather. The tonsils were enlarged and submerged. The right tonsil while being removed was seen to evolve a round worm, which was recovered and proved to be a female *Ascaris lumbricoides* about 1¼ inches long. The tonsil on section showed a cavity in which the worm had been imbedded probably for several years. The child immediately regained her health and has gained in weight.

Harper³⁵ advises in Vincent's angina, perchlorid of mercury 1:100 painted once, then daily silver nitrate 30 gr. to the ounce.

Five children with middle ear infection with Vincent's organism are reported by Adam,³⁶ all showed erosion of the external auditory canal. The prognosis, slight general symptoms, lack of contagion and lack of frequency resemble these phases of the disease as found in the throat.

INTERNAL SECRETIONS

An interesting case of cretinism is reported by Haynes³⁷ in which on every occasion following excessive doses of thyroid gland extract there resulted an immediate loss of weight and the signs of hyperthyroidism. There finally developed signs of another glandular disturbance, acromegaly. The sella turcica was shown to be enlarged. The tolerance for glucose proved to be greatly increased. Great improvement followed the administration of a preparation of the pars intermedia of the pituitary gland. The child's welfare could be definitely affected by the alternate use of the extract of these two glands, when thyroid was given the

34. Rogers: Boston Med. and Surg. Jour., Feb. 4, 1915, p. 161.

35. Harper: Glasgow Med. Jour., May, 1915.

36. Adam: British Jour. Dis. Child., February, 1915, p. 40.

37. Haynes: Amer. Jour. Dis. Child., November, 1915.

32. Stoll: Amer. Jour. Dis. Child., September, 1915, p. 183.

33. Fishberg: Arch. Pediat., January, 1915, p. 20.

child became worse, and when extract of the intermediate part of the pituitary was exhibited the child became much improved. This case seems to show the ill effects of excessive thyroid administration on the pituitary secretion, or that there was a coincident disturbance of both glandular activities. The writer believes that glandular extracts should be made from absolutely fresh organs and immediately desiccated.

"Nervous cretinism" is regarded by McCarrison³⁸ to be a condition of congenital myxedema combined with congenital cerebral diplegia. The symptoms of cretinism, as a rule, are easily seen, but the nervous symptoms may predominate, in which case there is less stunting of the growth than in pure cretinism. The nervous system shows its involvement in variations from the slightest degree of paraplegia to the most intense grades of spasticity, athetosis, convulsions and idiocy. Nystagmus, rare in cretinism, is sometimes present in the mixed type. The cases may be hard to distinguish from "cerebral diplegia." The improvement under thyroid extract is of diagnostic value.

The diagnosis of status lymphaticus is stated by Thursfield³⁹ in an interesting consideration of the subject, to rest most on the discovery of an increased area of dulness over the manubrium of the sternum. The thymus enlargement is the most constant feature. The normal thymus gives a V-shaped area of resonance not passing beyond the margins of the sternum, but when enlarged it passes from one half to three fourths to either side. Thursfield thinks the Roentgen ray does not show the difference between enlarged bronchial glands and the thymus. It is hard for me to see how percussion could detect the difference. But with a large shadow from either cause there is a tendency to unexplained attacks of dyspnea or to a persistently low temperature and intolerance of exertion. The author regards status lymphaticus as probable. Thursfield is inclined to use pituitrin which is a remedy obviating the results of shock which he regards as present in fatal results of the lymphatic state. He advises the injection of pituitrin before giving an anesthetic to a child who is said to have thymic asthma.

INSANITY IN CHILDREN

The usual type of mental affections in children is thought by Rhein⁴⁰ to be the manic depressive form of insanity. Besides his own cases, however, he has collected from the literature, thirty-two cases of insanity of which thirteen were circular, eleven of the manic form and eight of the melancholic type. Insanity has always been

thought to be rare, especially as asylums seldom have any children. The author believes this due to the fact that children are cared for at home. The youngest case of insanity on record is nine months. Berkham reported ten cases under 5 years, but most cases were between 10 and 11 years. All cases recover from the attack and few have any residual mental damage.

CARDIAC DISTURBANCES

Talley⁴¹ asks the question: Is a given heart murmur in a young child from acquired endocarditis or of a congenital nature? He states that rheumatic endocarditis is practically unknown under two years of age. Acquired endocarditis in infancy is secondary, most always, and the causative focus is easily found. So a cardiac murmur is usually functional or congenital. The functional irregularities of the heart are sinus irregularities, premature beat or extra systoles and a combination of both of these. Sinus irregularities arise in the sino-auricular node which is the normal pacemaker of the heart and is controlled by the vagus or inhibiting nerves of the heart. Sinus irregularity is frequent in normal infants. Premature beats or extra systoles are found in later childhood and in normal hearts more frequently than in diseased hearts.

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THE PHYSICIAN HIMSELF*

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My apology or excuse for this paper, if either be necessary, is that for a long time I have been impressed with the thought that it might be profitable to us to turn aside from our regular scientific programs of discussions and considerations of the diagnosis and treatment of disease to a consideration of the physician himself.

We might begin this discussion by asking the question: Would any man possessing a good mentality and the proper scientific training make a good and safe physician? or should he possess certain characteristics or adaptabilities for his work? In a practice of over 38 years duration I have met quite a number of physicians. Among them I have noticed quite a variety of types. Of men of seemingly equal natural endowments and equipment, one would be efficient and helpful in his ministrations in the sickroom, his very presence and personality would be an inspiration and encouragement to the patient and the family, while another man

38. McCarrison: *British Jour. Dis. Child.*, December, 1914, p. 508.

39. Thursfield: *British Jour. Dis. Child.*, November, 1914, p. 465.

40. Rhein: *Amer. Jour. Insanity*, January, 1915, p. 472.

41. Talley: *Arch. Pediat.*, September, 1915, p. 655.

* Read at the Henry County Medical Society, July 14, 1915.

under the same circumstances would seem to be at a loss to know what to do, would be undecided, and hesitate, lack confidence in himself, and so fail to inspire it in others. Now I would ask, What makes this difference in physicians? My earliest recollection of physicians is of two men who practiced in a little country village where I spent most of my childhood, 50 years ago. Each was a good representative of two leading types of practitioners of that day. Dr. R. was a man of good natural ability, fine physique, large and of commanding appearance and personality, a man who would attract attention in any crowd. His hair and whiskers were long and unkempt, he was careless and very untidy in dress and personal appearance, loud and coarse in speech and address, dictatorial in disposition; his decisions were always right, and therefore final, he was especially proficient in the use of whisky, tobacco and profanity. He was a terror to small children and timid women, but the beau ideal of a large circle of friends, among whom were really many sensible people. If Dr. R. had a patient whom he thought was going to die he would get drunk and let the patient die on some other physician's hands; then his friends would explain how different the results would have been if "Doc" hadn't got drunk, and that they would rather have him drunk than any other physician sober. He was not a bad man at heart but simply a misfit; he had the wrong job. The shortest road to a reputation sometimes is to get drunk occasionally and talk nonsense.

Dr. A. was the other man who practiced at the same place at that time. He was a man of no better endowments or education than Dr. R., but he was by nature, education, and training a gentleman. In his manner and address he was courteous and polite; in his opinions and decisions he was firm but tolerant of the opinions of others; he was neat and attractive, and devoted to his professional work. He stood for the best things in his community. He had the respect and confidence of all, even those who did not employ him professionally. No sacrifice of time, money or personal comfort was too great for him to make for his patients, be they rich or poor. He was a benediction to the community in which he lived, and was the type of physician Will Carleton immortalized in his poem of the country doctor, and was also faithfully portrayed by Ian MacClaren in "Beside the Bonny Briar Bush" as old Dr. McClure. The opportunities for physicians' education and training in that day was very inadequate as compared to his opportunities to-day. With these greater opportunities and advantages come greater responsibilities also. The general public is becoming better informed; they have higher ideals, and they are going to demand more of us in the future. The people now are

a reading people; daily papers, magazines and good books are more accessible and cheaper than ever before, and are found in almost every home. The people are better prepared to judge of our qualifications, and will not be so easily influenced by the specious claims of the diplomatic ignoramus. The public is going to demand that their physician be properly equipped for his professional work. The good laws that have been, and are still being passed to regulate licensing boards and medical colleges are a guarantee that he will be well equipped. A good superstructure must have an adequate foundation. So he who aspires to the responsible work of the physician should have a well poised mind, and a sound body, for his work makes large demands on him both mentally and physically. The physician must be a man of good moral character, for his opportunities and temptations to go wrong are many. The people with whom he has to do are neither all wise or good. Such a position should only be trusted to a man who is clean mentally, morally, and physically.

The physician should be a sober man, not temperate, but an absolute teetotaler so far as alcohol and habit-forming drugs are concerned. The day of the drinking man is rapidly passing. The business world will not have him because he is neither efficient nor dependable. How unthinkable it is to call a physician into a home of culture and refinement to treat perhaps an aged mother, and have him come in a maudlin state of intoxication, with a breath redolent with the odors of whisky, tobacco, and a filthy mouth. His very presence under such circumstances is a disgrace to his profession; it does not matter what his scientific attainments may be; the greater they are the greater should be his condemnation.

The physician should be a man of good thoughts. The wise man wrote centuries ago that "as a man thinketh in his heart so is he." Our actions are the result of our opinions. If a man believes that there is no harm in gambling, he will most likely gamble; if he believes that there is a price on every woman's virtue he is "libertine," and his attitude toward women will be in accordance with his belief, and he will not be a safe man to trust in the confidential capacity of a physician in our home. Dr. Maughes used to tell the boys that he would not vote for any young man for graduation who would not take off his hat to a petticoat hanging on a clothes-line; his was perhaps an extreme view, but our attitude toward the opposite sex should be one of great kindness and consideration. The physician should be a discreet talker. Certainly every man has a right to his own personal opinion, but he has no right to try to force them upon other people, especially in the homes of his patients. I once

knew a physician who was a prohibitionist politically, and a Baptist religiously. He rode his hobby so industriously that he drove away most of his business. I know another who has won considerable reputation because he does not talk. We would all pass for being at least as wise as we are if we did not express our opinion so freely. The physician in his dealings with his patients and their family should be dignified, patient and kind; not too familiar; optimistic and cheerful, but not hilarious. Perhaps no one else exerts a greater influence in his community than the physician, for there is probably no one who meets people under such trying conditions, or is called upon to help in so many of the real tragedies of life as is he; hence, the necessity of his being the right kind of a man. We hope to see in the near future the physician better compensated for his work. We hope to see a plainer line of demarcation between the regular physician and the quack, both of low and high degree. We hope to see men appointed to positions of trust and honor because of merit and not as a recompense for political work and influence.

ON THE CHANGED CHARACTER OF LATER LESIONS OCCURRING IN SO-CALLED HEALED TUBERCULOUS JOINTS*

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During the past few years I have been confronted with cases of joint disease which were difficult of classification into any special category. They did not fit into any fixed class nor could they be called atypical. More properly they could be termed borderland cases. Even here the overlapping was too strong. With some shading they could simultaneously be fitted into two opposite classes. This, as we know, should prove impossible and the impossible in medicine as in other sciences does not exist.

These cases all gave a history of a tuberculous arthritis in the joint now in question early in life. The symptoms which brought the individual patients for treatment were in no wise of tuberculous origin nor tuberculous in character. They were implanted upon a joint previously weakened by tuberculosis. How far the previous disease modified the character or to what extent it was its cause as well as its precursor are the problems here set for solution. This naturally calls up another problem, namely, the ultimate result of a tuberculous joint. The immediate or the near final result is admitted to

exist when active signs are no longer present, when a painless joint results with or without functional ability, and the constitutional findings and disability are admitted to be at a minimum. But the ultimate or far final is one with which we seldom come in contact and less often keep under observation.

We take for granted that a joint once weakened by tuberculosis is open to attack by other organisms, or open to non-infectious degenerative processes. The mechanism of this is little understood. We know that healing in a tuberculous joint early in life takes place by walls of granulation surrounding the focus of the disease. When in later life through cause, as later mentioned, this focus relights, the symptoms then presented are analogous to those originally seen. As a rule, however, the disease spreads beyond the confines of the bone first attacked, breaking into the joint and involving the opposing bone surface, be it acetabulum in the hip, femur or tibia in the knee, or whatever bone helps to form the joint in question. Here a different method of healing is to be considered, one more complex and leading to a prognosis more varying in aspect than the simple result first mentioned.

A joint in which the actual surfaces are involved and in which healing takes place without ankylosis is fruitful of secondary changes and may be later accountable for the symptoms seen. The bone on each side of the joint is irregular in outline, of varying density and of variable resistance. Especially is this true of joints such as the hip where the possible motions are numerous and pathological displacements common. The softened, necrosed bone is gradually filled in by scar tissue but with a retention of the bone outline as left by the receding disease.

When later in life, either through greater activity, increased function or an increase of superimposed weight, or through another set of causes, such as trauma or childbirth, a new irritation is started the clinical picture presented usually varies in character from that originally seen. We frequently see patients who present clinical pictures rather puzzling. The early tuberculous history and present findings in no way agree. The radiograph helps to confuse us. The character of the present lesion clinically is to be classed in one group, radiographically in another. Especially is this true of the hip.

We must take the view that during the years following a cure in a tuberculous joint the bone originally necrosed undergoes a change. This change is brought about by a gradual deposit of osteal tissue within the scar tissue. The matrix of this new tissue being of irregular outline a fertile field is provided for proliferative processes. A condition resembling osteoarthritis or hypertrophic arthritis is produced. That this condition differs from the usual type

* Read before the St. Louis Medical Society, November 21, 1914.

bearing this name is shown by the fact that but one joint is involved, the seat of a previous tuberculous process, and showing no tendency to other joint involvement. Also that the condition is seen early in adult life as opposed to the age at which osteoarthritis is generally seen.

The clinical findings in these cases coincide with this pathological picture. The symptoms presented are no longer of the tubercular character. Greatest pain, discomfort or disloyalty is experienced on motion first attempted, decreasing in severity upon increased active or passive functions. Range of motion of the joint in question increases and pain decreases upon continued manipulations. Pain is referred as in the original lesion, a condition not noted in osteoarthritis of the ordinary type. Tenderness of a moderate degree exists. Abscess has not been observed. The Wassermann test is negative in the entire series as are also all other signs of lues. The radiograph presents a double picture.

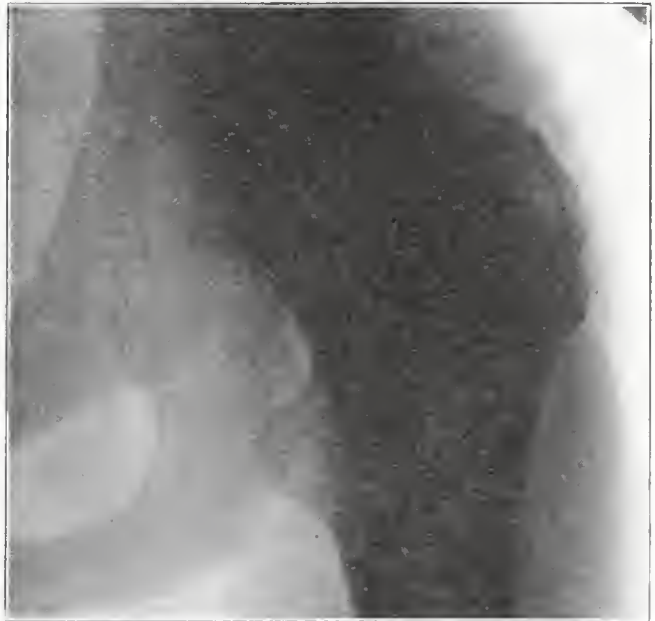


Case 1.—Displacement of head of femur. New acetabulum. A wide range of free motion on forced manipulation.

The old destroyed, irregular bone is interspersed with new dense islands. The proliferative constructive process is in the ascendancy, a condition not present in old, healed tuberculosis. In these cases a history of a typical tuberculous disease in former years, especially in childhood or adolescence is obtained without exception. Shortening where it exists resulted and persisted before the present recurrence. That the disease now in progress differs from the original tuberculous condition cannot be gainsaid. That the treatment must now differ from that originally employed is also evident. Where originally rest and immobilization were used, quite the opposite is now required. Massage and manipulations are to be employed.

This is a dangerous doctrine to advance and should not be accepted unless all the factors in

the especial case should warrant it. Considering the evidence in my cases, I believe I am justified in my final conclusion. The qualification must be made that this principle is not to be applied in those cases where there is a recurrence after an apparent cure but in those cases where an actual cure has existed for a number of years and later followed by the symptoms enumerated above.



Case 2.—Displacement of head of femur with new acetabulum. Slight motion permissible.



Case 3.—Displacement of femoral head. Slight motion permissible.

In some cases the transition from one pathological condition to another is gradual. This has been noticed in one case of tubercular gonitis. Change in the character of the joint infection is frequently met with. Especially is

this true of the arthritides which begin as acute infections and gradually become chronic, with symptoms of tuberculosis. This is noted during or following the acute exanthematous diseases. The original pathological picture is so converted as to be unrecognizable. Where the reverse exists, namely, a change of a tuberculous into a non-tuberculous condition, and transition is gradual, the picture is likewise disturbed. These two, however, differ from one another. This difference consists in the absence or preponderance of new bone tissue, present in the latter, absent in the former.

Three cases will suffice to give a view of the above contentions.

CASE 1.—Sarah R., aged 28. Had a painful left hip causing limp at the age of 12. Periods of pain extending over four years. Lived in a small Russian town and received no medical aid. Then noticed leg to be shorter than right. Four years ago left hip again became painful, growing progressively worse. Limp increased. Pain absent during night, greatest in morning after use, diminished after continued use, greater on use after rest.

Physical examination reveals left leg $1\frac{1}{2}$ inches shorter than right. Slight atrophy of thigh and calf muscles. Greater trochanter high. No fixed deformity. Flexion, abduction and outward rotation limited and painful. These motions are increased on further manipulation and pain diminished.

CASE 2.—Peter W., aged 18. Four years ago patient was confined to St. Mary's Infirmary with what the records show to be a typical case of tubercular hip (left) of several years' standing. The previous history now given was that of tuberculosis. His present complaint is stiffness in hip, limp and pain in moving on first using it, diminishing later in day. Pain is severe toward evening.

Physical examination: left hip flexed 30 degrees. Few degrees of motion present in any direction. One and one-half inch shortening. Atrophy of thigh and calf muscles. Forced manipulation allows greater mobility of joint with less pain.

CASE 3.—Cora T., aged 23. Under treatment by usual methods for tubercular hip (right) from age of 5 till 8. Abscess formed at age of 7. Cure resulted with slight flexion and 3 inches shortening. At age of 19 leg again became intermittently painful, gradually growing more severe, pain greatest in morning and on arising from a sitting posture. Five months ago patient became bed-ridden on account of severe pain.

Physical examination: right hip flexed 20 degrees; motions nil. Leg 2 inches short. Scars from former abscess present. No points of tenderness. No infiltration about joint. Weight bearing produces no pain.

In all the cases observed the findings were constant and as follows: At an early age the patient suffered from a typical attack of tuberculous disease. The treatment was in accordance. A cure resulted in due time. A period of freedom existed for a number of years ranging from five to ten. Pain began to recur gradually. This was noted upon use of the part only. No pain at night or when at rest. Pain greatest on first use of the joint, decreasing as motion or exercise increased. The same

objective signs and findings were noted. Motions of the joint were limited on first manipulations. Further manipulations increased the range of motion and diminished the pain. Slight tenderness existed. Referred pain noted. The Roentgen ray showed the old necrosed bone and with new tissue replacing it. With these findings the treatment naturally consisted of manipulations and massage, the reverse to that employed in the original condition.

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SOME DISEASES OF THE DUODENUM AND COMPLICATIONS INVOLVING THE SURROUNDING PARTS*

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In taking up a consideration of these conditions, which I may say can scarcely be touched in a paper that can be read in fifteen minutes, it may be wise that we give a brief consideration to the anatomical position and relations this organ bears to the surrounding parts.

The exact position of the structure is not clearly understood. It appears, however, that in maturity it assumes one of two positions or shapes, these being known as the U shape and the V shape. It is described as being divided into a descending portion, a preaortic portion and an ascending portion. The total length of the portions in each style is practically the same, there being a difference in the length of the respective parts when comparing one with another. The aggregate length in each case is about 31 cm.

Beginning at the pylorus, we find this structure assumes a bottle-shaped dilatation. The length of this part depends on the condition of the stomach and the position of the pylorus. It is generally directed upward and to the right and back under the quadrate lobe of the liver, then curving under the neck of the gallbladder to make a sharp turn to the right of the lumbar column. Here we will note the close relation which it bears to the liver and gallbladder. Behind and to the left is the neck of the pancreas, and below is the head of the pancreas. Its outer surface and part of its posterior surface near the pylorus is wholly covered with peritoneum. This part has been called the superhepatic curve of the duodenum. It then descends along the right side of the vertebral column, coming in contact with the vena cava inferior and right kidney, extending down as far as the fourth lumbar vertebra, thus forming

* Read before the Henry County Medical Society, June 15, 1915.

what is called the vertebral descending portion, the transverse colon crossing its middle third. Above, it is in contact with the right lobe of the liver, leaving its impression. Posteriorly there is no peritoneum; areolar tissue connects it with the kidneys, vessels of the hilus and vena cava.

The pancreatic and common bile ducts enter the posterior internal wall below the middle. The head of the pancreas is to the inner side. Now the duodenum changes its course and passes almost horizontally from right to left in front of the great vessel trunks and crus of the diaphragm and third or fourth lumbar vertebra. This is the transverse or preaortic portion, the head of the pancreas being above. It is crossed by the superior mesenteric vessel and the mesentery. Here it ascends along the left side of the vertebral column and aorta, touching the left kidney, lying on the left crus of the diaphragm, and ending at the left side of the second or first lumbar vertebra, this being the ascending portion.

Dealing with the pathologic conditions, I desire mainly to consider those changes in which surgical procedure is indicated; and hewing to this line, I will consider first the diseased conditions due to duodenal ulcers.

A duodenal ulcer is at all times not easy to diagnose, and when complications exist, the true condition can only be revealed after an exploratory incision has been made. However, a conclusion may be reached sufficiently accurate in which we can decide whether the case is medical or surgical.

In order to make this statement more impressive, I will cite you to a case from Dr. Murphy's Clinics, Vol. III, No. 6, in which the diagnosis could not be reached until after the exploratory incision had been made, at which time he found a perforating duodenal ulcer fixed to the anterior abdominal wall. He excised the ulcer and performed gastroduodenostomy.

Duodenal ulcers are less common than gastric ulcers, as one is to twelve, according to Burwinkle; and one to three, according to the Mayos, being most frequent in men. These ulcers are not infrequently associated with gastric ulcers. The corrosive action of the gastric juice is not limited to the stomach alone, but attacks the esophagus and the duodenum, especially the latter, and the jejunum after gastroenterotomy. The ulcers generally are found singly, though they may exist in numbers at or near the pylorus. Sometimes there may occur in this opening an ulcer assuming an hour-glass shape, a portion of which is in each structure.

Duodenal ulcers generally appear on the anterior wall, which would make them on the opposite side from the opening of the bile and pancreatic ducts. However, frequently there will be found ulcers directly across from each other,

which might indicate that an ulcer on one side might have infected the opposite wall during a time when the lumen of the duodenum may have been collapsed.

The Mayos have observed 135 cases of duodenal ulcers to 28 cases of gastric and duodenal ulcers combined, 77 per cent. being in males. These ulcers may arise in uterine life, as they have been found in babes that have only been born a few hours. They are also found in children of ten years or less; this, however, is not the case with gastric ulcers.

As to origin, they may be mentioned in the order of their importance as follows: hyperchlorhydria, local infection, embolism or thrombosis and foreign bodies.

Autodigestion of a zone of ischemic mucosa appears to play the most important part in the production of gastric and duodenal ulcers. Pylorospasm may be caused by chronic appendicitis by way of the vagus nerve, and when this occurs there will be a breaking down of the mucosa lining of the walls of the pylorus and duodenum.

The smaller ulcer is more prone to deep destruction than the larger ones. This generally takes place through a small opening at the base of the ulcer and empties into the abdominal cavity, intestine, or more rarely, into the gallbladder, possibly into a blood vessel of the liver, pancreas or other surrounding parts. The perforation is generally unprotected by adhesions and the contents may escape, following a course along the hepatic flexure to the right, then down the ascending colon to the right iliac fossa, where symptoms may set up resembling appendicitis.

This fossa may overflow and involve the posterior culdesac of Douglas. The course of this discharge may be carried farther to the left iliac fossa where inflammation may produce ileus, atresia and other complications to the internal tract, due to bands of adhesion.

In our anatomic description of the duodenum we have noticed the close relation it bears to the gallbladder, showing the dangers it may encounter with diseased conditions arising from gallbladder and ducts. In case of cancer of these structures, the duodenum can hardly escape. As the malignant process extends, the inflammation may cause adhesions binding the parts together and bridging a way by which the disease may pass on to the duodenum, thereby causing atresia, destroying the lumen of the part, consequently causing a disturbance of gastric functions similar to that which may occur in cancer of the pylorus. This condition may be easily extended and itself produce a malignant condition of the pylorus, great distention or dilatation of the stomach, and all the symptoms common to these conditions.

A large gallstone, after causing great irritation, inflammation and adhesions, may ulcerate its way through the tissues from the gallbladder into the duodenum. From there it may pass on without causing further trouble, and I believe this condition has taken place many more times than we have record of or even suspect. The opening left by this procedure generally closes spontaneously and complete recovery may be the result. Should nature fail to assert herself, however, and an opening remain, there might be established a permanent fistula, which in most cases would be a source of irritation and discomfort. Again, the opening might close, but the stone instead of passing on might remain in the duodenum, causing impaction and occlusion of the part.

Long-standing icterus, due to malignant diseases of the gallbladder and surrounding parts, may cause perforation into the duodenum with severe hemorrhage. This might also occur in cholelithiasis or interstitial pancreatitis, especially when malignancy is present.

Volvulus of small intestine just below the jejunal opening may produce a remarkable dilatation of the duodenum as well as the stomach, should the condition continue to exist. Phrenic abscess, abscess of the liver, of the peritoneum or of the abdominal wall may be the result of adventitious bands, producing stricture of the parts in question.

Localized peritonitis may bring about this condition, as above stated, and the adhesions produced by the condition may cause pain and suffering not unlike that of gallstones, even after the gallstones have been removed.

Gangrenous suppurative pancreatitis or gangrene of the gallbladder, which may produce septicemia or pyemia, may bring about serious complications involving the duodenum. Infective and suppurative conditions associated with the transverse colon may be another source of irritation, as the middle third of the descending portion is crossed by this structure.

Nephritis may be a forerunner of the above-mentioned conditions, as we will notice that the duodenum is in close relation to both of these organs, especially on the right, where the areolar tissue connects the duodenum with this kidney.

Appendicitis due to excessive inflammation may be an exciting cause, producing adhesions involving the duodenum.

Contrary indications to operation may be considered as follows:

It is not advisable to operate during the time of shock due to severe hemorrhage or prostration due to long suffering. It is stated that patients with ecchymotic spots are almost certain to die if operated on. Severe icterus is a condition in which a prolonged operation should be avoided.

When a duodenal ulcer has been found and does not respond to medical treatment, surgical interference is indicated.

When adhesions are producing occlusion sufficient to interfere with the passage of the normal contents, due to any of the complications above mentioned, operation is indicated.

When induration and thickening around an ulcer have produced an inflammatory tumor, surgery is indicated.

When a perforation of an ulcer occurs it may be repaired with or without enterostomy, this depending on the amount of tissue necessary to be sacrificed in doing the operation.

When hemorrhage is occurring from an ulcer, endangering life, the condition should be repaired by surgical procedure. These hemorrhages are prone to become more severe at each attack, though the attacks may be farther apart.

In cases where stenosis has been produced, as the result of swallowing strong acids or alkalis by mistake or with suicidal intent, operation may be the only means of relief.

RETOURING THE HINTERLAND OF MEDICINE

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For a number of years the thought was in my mind, somewhat vague in form to be sure, to review the record of my professional life in so far as it had been seriously committed to paper, but this growing sense of obligation, on one pretext or another, was successfully resisted until the present year, when the conviction became inexorable that in this direction lay a duty toward self that could no longer be honorably evaded. This conviction grew out of the assured belief that those who had entered the medical profession in the manner, perhaps, and at about the same time that I did, and who have survived, are personal witnesses to the fact of a revolution in thought and scientific reasoning that possibly has had few parallels in history—and the present purpose is to sketch that history in its personal equation for a period of about forty years.

In order that this might be done with fair intelligence and comprehension all my own published writings have been carefully gone over with the view of ascertaining to what extent the ability to learn and to unlearn has been exercised in relation to professional and scientific knowledge; and, if the expression may be allowed, from the benchmarks of the brain or milestones of the mind to make measurement of my own mental operations or activity for the

period stated, a process of self-searching to find out whether evolution or devolution has been the ruling characteristic of my own intelligence.

As a country youth the study of medicine was approached with scant preparation and much waste of time through lack of sound advice. Coming to St. Louis with an imperfect knowledge of the fundamentals of a modern education and a very limited acquaintance with the classics I entered a medical school of the proprietary kind and which was struggling to regain its footing after having been prostrated by the stress of civil war and its political, economic, educational and other consequences.

The date of my graduation was March first, very early as compared with present dates, and the diploma was awarded after two courses of about five months each in different years, the second year's instruction being a repetition of that of the first one.

Thus far, I may say with confidence, no teacher nor lecturer to whom I listened had made any deep or abiding impression on my understanding, although in the case of several of them their peculiarities of style, traits of character or mind, eccentricities of manner or speech often arrested attention; and this fact of my inability easily to receive lasting impressions in scholarship was probably due to my own disposition to withhold assent toward statements not sufficiently based upon fact, reason, or probability, as I conceived them. That some of these teachers were undoubtedly capable of imparting instruction and that I was capable of receiving it, in the more exact sciences, was proved by the fact that at the close of my senior year I won a prize in chemistry, offered by one of the faculty, in a competitive contest; but my own mental makeup appeared to be such that no profound impression was ever made on my intelligence or imagination by personal teachers, with a few exceptions, one of which will be mentioned later, as it was indeed exceptional in nature. Also a few points of vital weakness in the medical teaching of that time, which were dimly seen then and keenly felt later, will be indicated.

An opportunity for securing appointment as assistant physician in the City Hospital was afforded soon after my graduation, and having passed the examination held by the board of health I entered the medical service of that institution in the spring of 1873, there being three others who were equally successful, and each junior was assigned as subordinate to one of the seniors who were in charge of the four hospital divisions, namely, surgery, medicine, obstetrics, and the specialties, which also included the venereal wards. A resident physician was over all who was officially responsible for the treatment of every patient and for the housekeeping of the institution as well.

Unfitted, either by taste or training, I was at once precipitated into the midwifery service, my senior naturally enough proposing to throw upon me the night work and whatever to him might prove inconvenient or distasteful. How well prepared I was for the professional work thus imposed may be guessed from the fact that during my entire student course there was no clinical teaching at all in that line, and my whole practical experience was that I had stood by and looked on during a single case of confinement. A leather effigy, supposed to represent a woman from waist to knees, was the chief equipment of the lecture room. A good deal of oratory was heard, much more talk than teaching, and the indictment which I shall frame against the methods then pursued has warrant in the fact that they did not represent even the actual accessible knowledge of that time.

My superior in the division made no offer of aid and, as things stood, I was not disposed to ask any, so the mortifying episode soon to be mentioned sped to its denouement.

The nursing service then was very different from that which is now enjoyed, even this feature being a part of the revolution referred to. In the midwifery wards elderly women were employed who to my somewhat panicky perception looked wiser than it was humanly possible for any one to be, and who seemed to hold the knowledge of the young doctor in no very high regard. This disconcerting view added nothing to the serenity of a situation which developed in this fashion: Labor set in during the evening in the case of a healthy young primipara whom I was summoned to attend. Examination such as precedent then required was made and while all seemed well, in accordance with lecture-room recollections, still this did not allay disquieting reflections especially as the wise woman stood at the bedside observing everything that was going on. Short absences for stealthy reference to textbooks seemed to show that something was unduly delaying progress, and as that which was spoken of as the bag of waters had been harped on in the teaching received, it was guessed that this was the cause of the delay, especially as repeated examination revealed something that bulged somewhat during the pains. Very good! It must be ruptured and nature thus intelligently aided! The fingernail had been mentioned in the lectures as a suitable weapon, and as the hours dragged on it was used, but with no visible effect. Finally, the nurse was sent from the ward on some pretext and the blade of a small, and fortunately very dull, pocketknife was employed, also without evident result. However, as dawn came on nature completed her work, and after passing the child over to the nurse, and doing the best I knew how for the

mother, I withdrew to my room in no enviable frame of mind.

The new day's duties were faced with as much assurance as could possibly be mustered up. I was met at the door of the ward by the wise woman, who said, with what seemed a significant intonation, "Doctor, I wish you would come and see the baby's h-e-a-d!" No invitation could have been less welcome to me, but I said, "Certainly!" and at a glance saw what had been a caput succedaneum quite artistically graven by the handicraft of the accoucheur. After ordering soothing applications I said no more, and awaited what was to come. The story traveled in seven-league boots, of course, and my life was made miserable for several days. Finally, when most dejected, I met Dr. John T. Hodgen in the corridor, who took me aside and in his terse way said: "Homan, I hear that you are in trouble; let me tell you my experience with my first midwifery case!" He went on to say that he was unable to make out the presentation but finally decided that it was a breech case, as he thought his finger could locate the anal aperture. "There," he remarked, "I made a great mistake, for I should have smelled my finger to make sure of the diagnosis." When the child was born it was found that an eye had been destroyed.

Dr. Hodgen at that time was the head of one of the leading medical colleges in the country; the school that I had attended was a struggling competitor; feeling between rival faculties and student bodies was strong, factional bias and partisan prejudice on my part were not wanting, but that a man so high in the profession as he then was could ever have made such a mistake and had the greatness of soul to confess it for my relief, who was almost a stranger, was a revelation, and no impression deeper than this was ever made on my medical consciousness. The effect was instant—half-formed resolves to quit both the hospital and the profession, even thoughts of something much worse, were banished and the world again went well with me.

While no serious injury other than that inflicted upon my professional self-esteem attended this episode as much could not be said concerning my experience in the same hospital division at a later date, when I knew more of the physiology but very little of the pathology of lying-in conditions, this event being a deadly outbreak of child-bed fever; and in this connection I shall frame the indictment before spoken of against the teachers of obstetrics in those days as I knew them.

As I observed this tragical development a public institution, which in its management should have been a haven of safety for those needing such care, became in fact a death trap, and this through causes never fully made clear to my mind, but which I was disposed to believe

were due to pride of opinion, self-sufficiency of knowledge, sectional, racial or political prejudices, or possibly mere professional aloofness; for, even before I was born, Oliver Wendell Holmes, in New England, and Semmelweis, in Europe, had published to the world the evidence proving the highly infectious nature of puerperal fever; yet, in the time I speak of, in dealing with this situation the profession seemed helpless—no one warned me of the perils to patients of passing from the dead-room to the obstetric wards, or of the need of clean hands—in fact, these teachers and consultants, who were the reputed exemplars of the best that science could offer, led the way in this perilous procedure, and while I then had no grievance against them, because of my ignorance of what had been discovered long before and for which ignorance they were responsible, still they would have stood higher in my estimation if they had frankly confessed their shortcomings and placed the task of discovering the truth squarely upon the intelligence and conscience of the rising generation. And, in view of the past, the medical teaching of today should be most carefully tested in order to determine whether any like omissions or delinquencies are in evidence.

The certainty and speed with which healthy young mothers, as they became infected, would sink and perish was appalling, and the professional inertia or negligence of those to whom I naturally looked for guidance made me unwittingly particeps in a mortality that was peculiarly shocking and needless.

A slight tincture of what perhaps may be termed pharisaism seemed to be associated with the attitude mentioned, but whatever may have been the true explanation my experience decided me for the future to have as little to do as possible with that line of work. The attitude indicated was a part, too, of the ancient regime and is as impossible professionally today as would be the chronic presence of child-bed fever in any intelligent community.

When in due turn my service in the surgical division began here too it was vaguely felt that something was wrong, for the utensil known as the pus pan, a dish used to catch the drip from the stumps of amputated limbs, was in evidence. Laudable pus was also spoken of with approval, notwithstanding the hectic looks and wasting forms of the sufferers in the wards. But even then, unknown to the western world, Lister, in divine discontent with things as they were, was working out the principles whose application in such an institution would usher in the most beneficent revolution of the age, and this could never have been accomplished save for the young men whom he was able to draw to his side.

As a beginner in this division of hospital work the most trying experience to me was an occasion when I was roused from sleep at four o'clock in the morning to give surgical care to a husband and wife who were brought to the hospital in the same vehicle. Both were drenched with blood, and both seemed to be dying; the man had attempted murder, and with a razor had inflicted two gashes which apparently just missed decapitating the woman, only a narrow isthmus of skin remaining at the front and back of the neck. Thinking his victim was done for he had then sent a pistol bullet into his brain, the external wound being in the center of the forehead. Both patients recovered, the man eventually being sent to the penitentiary at Jefferson City, where he died some years later, the necropsy showing that the bullet had lodged on or near the pons.¹

The resident physician of the City Hospital at that time was a man of excellent professional standing, a good administrative officer, and with surgical pretensions. When making his daily rounds it was a common thing to see him use a surgical probe to dislodge blood-sucking vermin from nooks in the bedsteads, and then after a casual wipe use the same instrument to trace a sinus or follow the course of a bullet. On one occasion the entire corps was summoned to the amphitheater to witness an operation by him on a private patient. He descanted at length on the case, pointing to it as one of malignant disease of the scalp, total extirpation being demanded. When the operation was completed he was called away by a ruse and the opportunity seized by the skeptics present to examine the specimen. It was found to be the cretaceous remains of a sebaceous cyst which hat-pressure, dirt, etc., had caused to inflame with some ulceration of the skin.²

Following these two years of rich hospital experience came a service by me of some twenty years largely given to public health work on municipal, medical college and state lines, the two closing decades of the nineteenth century shining resplendent in the accomplishment of what has been termed the revolution. It was my good fortune, and that of others like me, to witness these achievements as it were, from a

structure whose abutments rested on either shore of the stream of knowledge, and to pass with understanding and enlightenment from that which was unproved and speculative to the knowable and assuredly scientific in medicine—from the old to the new gratefully and with fullest acceptance. The proof that old things were passing away, that mental processes were beneficially changing, that a new spirit possessed the medical profession, was clearly shown by the greetings given to the announcement in 1884 of the scientific identification of the bacillus tuberculosis; and although, even after thirty years, we still have it widely with us it is no fault of the medical profession that this is true, for only money is needed to compass its practical destruction. In this country, for example, tuberculosis could probably be laid in its grave at an expense represented by the cost of a single battleship, as is now proposed, but the world seems to be not merely savage but insane as well.

This success in laboratory and field research led to others, notably the finding of the spirillum of Asiatic cholera, and in 1894 I committed myself to views which later I was obliged to recant. As an inroad of that disease was then threatening this country I published a paper, the title of which was "A Contribution to the Study of Waterborne Cholera," which described the tragedy that befell the Fifty-Sixth United States Colored Infantry while en route in August, 1866, by the Mississippi river from points in Arkansas to St. Louis, a shaft in commemoration having been reared by the survivors in the national cemetery at Jefferson Barracks, and which I had observed for the first time that year.

Cholera was decidedly present in St. Louis at that time and although in the essay mentioned the agency of the domestic fly was suggested as being a factor in the spread of the disease on the boats, still the main contention was that river pollution at St. Louis was the cause of the outbreak, but further and better knowledge has discredited this assertion.

In the story of this fateful journey, as told by the officers commanding the troops, there is the somberness of ancient Greek tragedy, as, the landings at night to bury the dead by torchlight, some of the bearers of the corpses falling dead themselves while in the act and being interred on the spot, fifty-four bodies were thus disposed of from one boat in a single night; the regiment was more than doubly decimated by this destructive visitation, nearly 190 dying, out of about 700 men exposed. An item of medical interest in the earlier history of this regiment is that the surgeon was killed on the field of battle while in the act of dressing the wounds of its commanding officer.

1. These patients were under the care of Dr. Hodgen whose skill and resource met every demand. His sudden death in 1882, when in his prime, was a blow from which his own and the succeeding medical generation have never fully recovered; and the day was a dark one when I helped to bear his body to the grave. A wreath was laid upon his tomb the same year in an address in which his personal characteristics and professional traits and attainments were likened by me to those of John Hunter. A thronged assemblage joined in memorial services held on the twenty-fifth anniversary of his death.

2. When in charge of the medical division of the hospital in July, 1873, I attended the first cholera patient who came to St. Louis in that outbreak of the disease—a woman from Memphis who was rushed from the boat to the hospital fatally ill with all the typical developments of that infection. The picture and experience were things that could never be forgotten by anyone who shared in them.

A recantation of medical and sanitary error followed the publication in 1898 of views respecting yellow fever, the opinion advanced being that bad drainage and other harbor conditions at Havana were responsible for the chronic infection of that port; the mosquito was not even mentioned, although a few years later everything was scientifically cleared up and that which had been so baffling and mysterious for centuries became as plain as day.³

Again a blunder was made in an expression published in 1885, bubonic plague having been spoken of as an example of a practically dead disease. In truth the pestilence was but sleeping and has risen since and girdled the earth, showing a power to destroy that has taxed to the utmost the energies of national governments to stay its terrible march—but, happily, the cause is now fully known, its natural history has been demonstrated and scientific medicine has again scored one of the greatest triumphs of history.

Other errors of judgment and mistakes in different directions are acknowledged, due to lack of facts needed in order to reach correct conclusions, but there were no exhibitions of mere pride of opinion as of old, untenable views were yielded as facts showed their insufficiency; on the whole, both the medical spirit and professional trend has been steadily upward and onward to better things in intellectual acquirement, scientific attainment, educational equipment and, not least, moral rectitude—and if any debentures in these different domains are still outstanding, repudiation of the debt would now be impossible.

So the profession of medicine now stands as the one particular calling which seems fitted organically to live as it learns and to learn as it lives, suiting new forms of thought and fact to new conditions of function—one that has been weighed and found not wanting according to the law of its nature, evolution and purpose—one that faces time to come and not time that is past.

It is told of Demosthenes that having failed in his lengthened and determined struggle to rouse the people of Athens to a realizing sense of the menace of Macedonian despotism, and his enemies being triumphant, he was driven into exile, their vengeance following him to foreign lands, even to the temple where he sought sanctuary and where he died by his own hand to escape a worse fate.

3. It was my professional fortune and official duty as well to see the first patient having yellow fever who was brought to St. Louis in the epidemic of 1879. The end came speedily with black vomit and tranquility of mind as impressive features of the case. The tranquilizing effect of the yellow fever toxin had long been observed by physicians and the suggestion is made, if ever the germ is identified, that animal experimentation in the laboratory with the aid of biological chemistry may be able to produce this agent, possibly in an alkaloidal form, that would be of great therapeutic value, particularly in conditions of cerebral excitement.

A generation at Athens, when too late, repented of what had been done and decreed to him a monument, a statue, which was set up in a public place as an enduring testimonial to his memory. An authentic copy of this work is said to exist today and shows Demosthenes in an attitude of impassioned appeal to the loftiest aspirations, the highest ideals of mankind; both the face and the figure are studies of fascinating interest and marvelous power, the hands coming together in front of the body, all seeming to express everything appealing in act and thought that has moved mankind to higher things since first the human race appeared.

As the story is told a soldier who had just been paid his hire was passing that way and, compelled by the silent power of the figure, he placed his gold in the hands of the statue for safekeeping and went away to other wars. The seasons came and went, the flowers bloomed and faded, the birds even built their nest on the hands of the bronze figure, and after years had passed the soldier came again seeking his treasure and found it safely reposing in the place where he had bestowed it.

The mark of rank in nature is capacity for pain,
And the anguish of the singer lends a sweetness to
the strain

And so it has come to pass, by reason of medical law and being and through the faithful exercise of powers and gifts naturally conferred, that the gold of truth today is found in living hands. That metal—smelted in the fires of crucial experiment, refined in the furnace of critical experience, assayed in the crucible of scientific knowledge and skill, weighed in the scales of professional judgment and medical conscience—has been minted by clinical insight and biologic decree into a coinage that passes current all over the world, ringing true to every test; deposited in the treasury of the eternal verities the chosen custodian is that profession which stands foremost of every profession in sympathetic vital service and reasoned helpfulness, daily and hourly rendered to the human race, in all those undertakings that make for the higher and more enduring betterment of mankind, and the lofty peaks that crown the hinterland of medicine stand as witnesses giving testimony that this is altogether and undeniably in keeping with the principles of human progress and the laws of organic fact and life.⁴

Odd Fellows' Building.

4. No more crucial experiment was ever conceived or carried through than that which determined the biologic relation of man and mosquito in yellow fever and malaria; critical experience never came more fully into play than that which solved the problems of typhoid fever, rabies, diphtheria, anthrax and tetanus; scientific knowledge was never more adequately employed than in settling the questions of tuberculosis, typhus, bubonic plague and syphilis; professional judgment and medical conscience decided in human interest and weal the difficulties presented in connection with the vaccines, antitoxins, serums, etc., that have been afforded by bedside studies and laboratory research for the prevention and cure of disease.

THE CURRICULUM AND METHODS OF TEACHING IN NURSE TRAINING SCHOOLS*

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Years ago, in her inimitable "Notes on Nursing," Florence Nightingale described nursing as "the finest of the fine arts." It still remains an art but one whose scope has broadened until today the woman at the head of a training school finds that her problem is to introduce the new student to a rapidly developing field of applied science. This is no simple task since it means that schools of nursing must attempt to throw off the last shackles of the old apprenticeship system and introduce systematic methods of vocational education.

It is necessary only to study the rapid progress made in medical and sanitary sciences during the last decade to realize that the demand for advanced professional standards in nursing is the direct outgrowth of their phenomenal development. Since the earliest times the histories of medicine and of nursing have been closely linked together and nursing has been called the handmaiden of medicine. Until comparatively recent years the title was entirely applicable, for in response to the only demand made upon them training schools prepared their students to take positions which were little more than those of upper bedside servants whose only field was that of "sick nursing." Now, however, conditions have changed and our schools are asked to supply women who can offer in addition to a certain mechanical skill, a theoretical training which will make of them reliable laboratory agents for the physician and efficient health nurses for the people of the state.

In considering and discussing the new fields in nursing and their needs, Dr. C.-E. A. Winslow, the eminent sanitarian says: "All this requires obviously enough a highly trained and specialized expert. I have no knowledge of the requisites for 'sick nursing,' but it is quite clear that in public health work the visiting nurse must be no empirically trained upper bedside servant. She must understand thoroughly the general fundamental laws of hygiene and sanitation, which means a mastery of the principles of physiology and bacteriology, and she must have a minute grasp of their application in the field of her own work, whether it be school nursing, tuberculosis nursing or infant hygiene. She must know these things not

merely as a practitioner but as a teacher, which means not only a knowledge of details but a vision of their right relationship and a talent for effective presentation. Always there are educational weaknesses inherent in an undertaking which is not primarily educational in aim. The course is apt to be carelessly planned, the teachers those who chance to be available, the teaching what they happen to find it easiest to give, and the laboratory equipment hopelessly inadequate. Most fundamental of all is the problem of time. It is absurd to attempt training the nurses we need for public-health campaigns by a course which involves two or three hours of theory a week and fifty or sixty hours in the wards—not hours of clinical instruction but for the most part a routine of unenlightening and exhausting manual work. The relation between the hospital and the training school should be symbiotic; it more nearly resembles a case of simple parasitism."

To make of this a concrete problem let us ask ourselves the following questions: "Are we in Missouri prepared to supply the demand? Are our schools of nursing educational institutions? If so, what are our present standards? What should our standards be?"

An educational institution exists for the purpose of socializing the individual; to train him to make the necessary adjustments to his environment. Preliminary training in making the more elementary of these is offered by the grade and high schools. This work is carried further by colleges and universities and it remains for the latter to undertake the preparation of the individual for the special adjustments demanded by the profession which he elects to enter.

Thus a training school for nurses—better called a school for nursing—should be an educational institution whose particular function would be that of training properly qualified young women to cope adequately with the problems they will meet in their future work. What then is to be the future work of the nurse? Twenty-five years ago the answer would have been simple, since with the exception of the nurses who were qualified to take the few hospital positions available, there was practically no field of endeavor for the new graduate except that of private nursing. Now the situation is entirely different. Upon the completion of her course the nurse finds herself called upon to go into the streets and homes, shops and factories, schools and colleges. Her work has broadened until it includes duties which are educational, social, administrative and sanitary.

Are there schools in Missouri giving student nurses proper preparation for work in such broad fields? Let us take a concrete example

* Read before the Missouri State Graduate Nurses Association, St. Louis, Oct. 21, 1915.

in the case of a school whose students are registered under the present nurse practice act. A nurse held the combined positions of superintendent of the hospital and director of the training school. In the latter were enrolled between forty and fifty pupils. The operating room supervisor was her only graduate nurse assistant. Being a woman of the highest ideals and with absolute honesty of purpose, she labored long and diligently for the welfare of her pupils. But almost before her work was well begun she knew that more and better trained assistants must be had, in justice to the students, the patients in the hospital and the people of the state who might require the services of these nurses after graduation, otherwise a thorough training and the possibility of advancing professional standards were not to be thought of. She took the question to the board of managers and in answer to her plea for more help they asked, "What will you do yourself?" To those men it seemed perfectly possible that one woman could manage the business affairs of the hospital, direct a vocational school, do all of the teaching and supervise the nursing. Could such a workshop be called an educational institution? Many incidents like the foregoing could be cited. But they would only serve to point out further what we already know, namely, that it is frequently difficult to impress upon the minds of hospital trustees and boards of managers with sufficient vividness the responsibility they have toward the education of the nurse. Hospitals should stand in the community as educational centers, being institutions where nurses and doctors are taught the use of all remedial agencies and from whose doors are sent out nurses properly equipped to assist in the work of prevention of diseases. As the vast majority of training schools exist for the mere purpose of supplying cheap nursing service for the hospital, and since there are few schools, if any, with a sufficient endowment to enable them to exist independently of a hospital corporation, or that are controlled and supported by the state, the difficulties which confront nurses in working out the problems of this transitional period are legion.

An educational institution implies a curriculum. This varies to an appreciable extent only as the aims of schools are different. Thus we might scrutinize the curricula of reputable schools of any profession and recognize that the differences found were of minor import. It would be seen that the preliminary education demanded of the student, the subjects taken up, the amount of time given to each, the relation of one to another and the methods of instruction were approximately the same. The reason this would be so is that the schools have the same aim. So those subjects have been chosen for

the curriculum which have proven of intrinsic value in the professional training of their students and they have applied those methods of instruction which experience has shown bring the best results.

Take, in comparison, a number of the training schools in Missouri today. Are their aims the same? Presumably, yes. In view of the fact that they are all working for the same goal do we find the same unity of standards that exists in other professional schools? Far from it. On the contrary, we find in our schools the greatest divergence in the preliminary education required of applicants, the subjects offered in the curriculum, the time spent on each, their relation one to another, the methods of instruction and the coordination of the theoretical and practical work of the student. For instance, in one school we will find students whose preliminary educational advantages vary from a grammar school to a partial college course, while in another we will find few who are not high school graduates, a fair proportion with some college work and some who have degrees. One school will offer a good course in bacteriology with adequate laboratory instruction, while another spends eight hours on the same subject. Some principals of training schools elect that this subject shall be given to probationers, others to the intermediates and still others to the seniors. In one school ten lectures in anatomy and physiology are given to the pupils, while another gives sixty hours' instruction in the same subjects and in still a third the course is repeated each year.

Normally, what reaction could be expected from groups of intelligent young women in such situations? An idea of what it might be could perhaps be gained from the observation of a nurse connected with a school in Missouri. During the past year and a half many students from other hospitals have applied for admission into the school which she was directing. Some of these were still enrolled and others had already severed all connection with their own schools. From the unusually large number of the applicants it seemed that something must be wrong with the schools from which they were coming or with the young women themselves. Why had they become dissatisfied? In an attempt to find an answer to the question, all possible information was gleaned from each young woman. Some of the tales that were told were tragic. A few examples will suffice to give a general idea of the mental state of the applicants. From one well-known school came three young women who gave as their reason for wishing to leave that their instruction was insufficient, "there was no one in their school prepared to teach and they had no laboratory work." The cry, "not enough class work and irregular instruc-

tion," was consistently heard from all of them. One applicant reported that in her school the probationers were taught by the student head nurses; she had received her instruction from a nurse five months her senior! When another was asked why she had become dissatisfied she replied, "I heard the doctors speak of the lack of equipment until I knew that we did not have the proper things to work with." When questioned about her class work another said that they "had lectures once in a while." Several applicants told that they had been put on special duty with private patients. In some cases this was twenty-four hour duty and in every instance the hospital was paid for the services of the nurse. One pupil told that she had spent on special duty five out of eighteen months and another six out of eighteen months she had been in training. From a school where a student nurse was night supervisor it was reported that one seventh of the entire student body was doing special duty with private patients at one time. For their services the hospital was paid \$21 per week. It was said that nurses from this school were frequently put on special duty during their first year's training, although they were instructed not to let their patients know how young they were in the school. A graduate of this school told that she had spent most of her time on special duty while still a pupil and said, "You know you don't learn much when you are shut up in a room with one patient." Another statement was that one textbook of practical nursing was furnished for each four pupils and with the conclusion of the year's work these were collected and sent to the store-room, and these books were old copies of old editions of an old text! It would be a waste of time to call attention to all the statements that were made. Those that have been presented are given simply to show what students are saying about their own schools. In many instances perhaps the pupils were undesirable from the standpoint of their own superintendent; perhaps their statements were distorted and inaccurate, but the large number of applicants and a certain similarity in their stories seem to point to considerable dissatisfaction among pupil nurses. It is also safe to conclude that in the majority of instances young women desiring to enter the nursing profession have little or no idea of what the training school should offer in the way of a professional education. Many of them think, as did one young woman who said, "I thought I could learn to nurse in any hospital."

The foregoing statements are true in regard to the status of nursing in our own state. That such conditions exist rather generally throughout the country can be shown by a study of Miss Nutting's admirable survey made for the U. S. Bureau of Education. The following excerpt

from the bulletin will show the time allotted to various subjects taken up during the first year of the nurses training, the statistics being based on a study of 692 schools:

Anatomy, 8 to 72 hours; average, 20 to 24.
 Physiology, 6 to 60 hours; average, 20 to 24.
 Bacteriology, 2 to 40 hours; average, less than 10.
 Hygiene, 2 to 24 hours.
 Dietetics, 5 to 40 hours.
 Materia Medica, 10 to 60 hours.

These figures indicate a great lack of unity of ideas in regard to the relative importance of subjects occupying a place in the training school curriculum. A closer study of the survey would show that the same discrepancy was evident in the admission standards for pupils, the methods of instruction and the relation of theory to practice, all of which points emphatically to the necessity for the standardization of curricula and methods of instruction in nurse training schools.

What then should the standard curriculum be? Obviously it must present the minimal requirements that the state can accept, modest in its first demands in order that ultimately much may be achieved. It should work no insurmountable hardship upon the small schools struggling for higher standards and at the same time give the stronger schools a foundation on which to build. It is imperative that such a curriculum be planned with the utmost care in order that the needs of the hospital and the physician with whom the nurse is to work be given due consideration. These minimal requirements should provide for higher standards of admission and adequate instruction both in theory and practice in the following branches: Anatomy, physiology, bacteriology, materia medica, chemistry, dietetics and cookery, massage, medical nursing, including clinical pathology; pediatrics, including contagious nursing; surgical nursing, including orthopedics; gynecology and obstetrical nursing. Progress in strengthening the curriculum and improvements in methods of teaching must go hand in hand if the foundations of the school are to be strengthened.

The faculty of a training school is made up of physicians and nurse instructors, a dietitian and masseuse. In some instances instructors in English, sociology, psychology and practical handicraft are added. It is superfluous to speak of the valuable services that physicians have rendered training schools by assuming responsibility for a certain amount of teaching. The chief weak points in the instruction given by the physician are, (1) that the instruction is generally given from the viewpoint of the medical student and hence, is often far too technical for student nurses; (2) that it is difficult to direct

the courses given since the services of the doctor are often gratuitous. Whenever it is possible these lecturers should be paid. But our chief concern at present is with the position of nurse instructor. In the majority of instances these positions are filled by women who happen to present themselves at the time when there is a need; few indeed are the teachers of nurses who really fill their positions; most of them only hold the places they are in.

What qualifications should a superintendent of nurses require in an instructor? First of all, she should present credentials of a thorough preliminary education and preferably should be a college graduate. In addition, she should be a graduate of a reputable school of nursing. It is also most desirable that she should have had, subsequent to graduation, experience in private nursing and the various phases of institutional work. If this experience has been gained in different institutions it is much more valuable. Special training for teaching, such as can be obtained in a normal school, is invaluable. If possible this should be obtained in a school where the study of pedagogy is taken up in its direct relation to the problems met with in teaching in schools of nursing. Her theoretical work should have been such that it has taken her far beyond the point to which she will take her students. Personally she should offer absolute honesty of purpose, an open mind, with that type of intelligence which will preserve her from a foregone conclusion; and she should have the highest ideals, both of the knowledge that should be gained by nurses and the ultimate good they are to accomplish.

If the nurse instructor is to give all of the foregoing to the school what should the school offer her in return? First of all an opportunity should be given her to work unhampered. Well trained teachers, whose work should be not only that of teaching but that of assisting in the direction of the educational activities of the training school, many times find themselves in positions where their superior officers are absolutely unfitted to plan the educational work of the school yet refuse to give over this branch of work to the properly equipped person on their staff. The reaction of this attitude on a competent instructor is almost disastrous. She finds herself cramped, unable to move forward, prevented from doing her best work and from giving all of her strength, enthusiasm and interest to the pupils and the school. But the effect on the instructor is of minor importance in comparison with the loss to the school. The position of the nurse instructor should be that of first assistant to the superintendent of nurses. It should be recognized that a properly trained nurse in such a position is the logical member of a training school staff to assist in outlining

the educational policy of the school. Her interest and enthusiasm should be stimulated by allowing her greater freedom in her own department and an opportunity for intelligent cooperation with the director of the training school.

It would seem wise to warn against overloading an instructor with work. In the majority of instances nurses do not realize how much teaching one person can do well, and for the most part too many hours of work are required of an instructor. No woman can do well more than five hours teaching per day. This leaves her three hours for preparation for advance and follow-up work. She should be at liberty to arrange her hours to suit her own convenience and Sunday should be free from all hospital work.

The remuneration that the teacher should be given is one worthy of your attention. The fact that teachers are generally underpaid is well known and this extends to those in the nursing profession. We demand a most thorough preparation of the women we ask to be our instructors and in turn pay them less in proportion than we pay our supervisors and head nurses. Such instances give the lie to the belief anyone may hold that teachers, even in training schools, are in the profession for financial gain or, as expressed by Kipling,

"If teaching was what teaching seems
And not the teaching of our dreams,
But only putty, brass and paint,
How quick we'd drop her, but she ain't."

In order that standardization of training schools may be accomplished, good state laws governing the practice of nursing are needed. The nurse practice act should govern the preliminary preparation of students, the hospital facilities, the faculty and professional education offered by training schools. It should demand that schools be registered and should provide for their adequate inspection. To procure a law which will be efficient is a difficult task, but until that is secured there is much that can be done. First, all alumni and local nursing organizations should be interested in the problems of nursing education and be made to feel a definite responsibility for a share in the work of advancement of professional standards. Alumni organizations should have a strong influence for good on their own schools. Second, a great effort should be made to draw into nursing young women who have had a more thorough preliminary training than the average pupil entering our schools today. Nursing offers so many splendid opportunities for women with proper equipment that the fact should be advertised broadcast in order that young women of broader mental training become interested in nursing and choose their schools intelligently. This might be accom-

plished in part by the publication of a series of articles on nursing in country and church papers. These articles should be popular in their nature and give the reader an idea, (1) of the preparation both theoretical and practical that a young woman should have before entering training; (2) what she should expect from the training school in the way of a professional education; (3) what her living and work conditions should be; (4) what opportunities await her after graduation; (5) the meaning of legislation in nursing and state registration.

Work such as this might be accomplished through the agency of a publicity committee. A suggestion for an additional activity for this committee would be the compiling of material for use in educating both lay and professional people in regard to the new nurse practice act. The arguments for the bill and refutations of the commoner arguments against it could be cited, concisely arranged in a logical fashion, and printed in pamphlet form. This could then be put into the hands of every member of the Association.

All improvements in nursing must come from within and before a sound program for constructive work can be outlined more definite information in regard to training schools should be procured. Would it be possible, since a training school inspector is not provided by the state, for the State Nurses' Association to make possible an adequate survey of training schools in Missouri? The number of schools is, I think, nearly forty, and such a survey could probably be made in less than three weeks. If each school was inspected by a nurse sent out by the State Association it should be possible to secure accurate information in regard to the status of nursing in Missouri. With such a group of facts in hand we would be able to see "where we falter and fail and why, and when and what remedies to apply."

600 S. Kingshighway.

REPORT OF A UNIQUE CASE OF POST- OPERATIVE VENTRAL HERNIA WITH- OUT THE USUAL HERNIA COVERINGS

ROLAND HILL, M.D.
ST. LOUIS

The occurrence of a postoperative ventral hernia in which the hernia coverings are absent, developing several years after an operation for appendicitis is I believe unique and the case seems worthy of report:

J. J., white, male, aged 25 years, was admitted to my service at the City Hospital, the evening of July 31, 1915. The patient gave a history of having

been operated on for appendicitis six years before. The appendix was found gangrenous, his recovery had been slow, and the incision had never properly healed. He stated that a knuckle of bowel would occasionally protrude at the site of the operation, but would return into the abdominal cavity when he assumed a recumbent position. Twenty-four hours before admission the knuckle of bowel had come down, and he was unable to replace it.

On examination I found the cecum protruding through the middle of a dense white scar, situated at the outer border of the rectus muscle in the region of McBurney's point. It was intensely injected and there was one small spot that had the appearance of developing gangrene. The peritoneum over this knuckle of bowel was thickened and infiltrated. The patient said he had not suffered from vomiting and that his bowels had moved each day. Immediate operation was recommended.

Patient was placed under ether and the protruding loop of bowel was dissected from the edge of the scar. It was very difficult to liberate the adhesions and while replacing the bowel a small opening was made in it. After repairing the injury the bowel was returned to the abdominal cavity and the wound closed in layers. A flank drain through a stab wound was inserted and a second drain to the site of the injured bowel was placed in the outer angle of the wound. The patient was treated in the usual way to prevent peritonitis. All nourishment per mouth was withheld for forty-eight hours. Peristalsis was restricted by the use of morphin.

Patient did nicely for three or four days when it was noticed that a slight fecal discharge was escaping from the flank drain. The edge of the wound seemed to be reddened and infiltrated. A few days thereafter fecal matter was found escaping from the anterior drain.

The patient improved rapidly. On termination of my service at the City Hospital he was transferred to the service of Dr. Babler who repaired the fistula. Two weeks later he left the hospital entirely recovered.

It seems very unusual that this condition could have occurred without causing peritonitis. The fact that it did not cause peritonitis was evidently due to the bowel folding into a little pocket that had been walled off by adhesions. The thickening of the peritoneum over the area had evidently prevented the occurrence of plastic inflammation that would have caused the surface of the bowel to adhere to the surrounding structures and prevent its prolapse.

Lister Building.

OFFENSES BEYOND LAW

Dr. Oehler, who is expelled from the St. Louis Medical Society on a charge of offering to "split" a fee for a surgical operation, says there is no law, municipal, state or federal, against such a practice.

This would be a cruel existence if the law alone restrained conduct. The moral judgment of the community, carrying the sentence of ostracism, social, business or professional, suffices for protection against many offenders "within the law."

There need be no law against offenses like that of "fee-splitting," which carry their own punishment when they are discovered. The public will carefully avoid fee-splitters of its own accord.—St. Louis *Post Dispatch*.

THE JOURNAL

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MARCH, 1916

EDITORIALS

LOVING CUP TO DR. WOODSON

The members of the Buchanan County Medical Society gave expression to their appreciation and esteem of our president and their fellow-member, Dr. Woodson, at the annual banquet of the society at St. Joseph, January 26, and presented a beautiful loving cup to him.

Occasions of this kind are none too frequent among us and we hope instances similar to this will increase and the facts be given proper publicity. Long and continued association with confrères in a community, opportunities to befriend and protect struggling and troubled members, sacrificing time and means for the benefit of the profession, are not uncommon virtues among our members; but when a long life has been spent in service for others an acknowledgment in some outstanding manner that one has earned the affection, esteem and respect of one's fellow-members is a gracious and gratifying period in any career. So we are glad to record that the Buchanan County Medical Society has shown its appreciation of Dr. Woodson in such a fitting manner. On another page we publish a full account of the meeting at which the cup was presented to Dr. Woodson.

MEDALLION OF DR. FRANK J. LUTZ PRESENTED TO ST. LOUIS MEDICAL SOCIETY

During the forty years of his professional life, all of it spent in St. Louis, possibly the most lasting service Dr. Lutz has rendered the profession is his work in building up the St. Louis Medical Library now the Library of the St. Louis Medical Society. In recognition of this service the society accepted a life-size bronze medallion of Dr. Lutz presented by members of the society at the regular meeting, Jan. 29, 1916. Dr. Amand Ravold in presenting the medallion to the Society said:

"I have the honor to present herewith the report of the Frank J. Lutz Medallion Committee and to turn over to the Society the medallion which has been made for us. Your committee came into existence at a regular meeting of the society held March 7, 1914, for the following

reason—I quote from the minutes of that meeting: 'Dr. Amand Ravold moved that a medallion of Dr. Frank J. Lutz be made and placed in the library of the Society in recognition of his untiring and unselfish devotion as librarian since the foundation of the library, and that a committee of three be appointed by the president to whom the matter shall be referred with power to act, the necessary funds to be raised by popular subscription among the members of the society.'

"The committee met and decided to ask members interested in the movement to subscribe a minimum of one dollar. In a surprisingly short while \$163 were collected. Sculptors were interviewed and among them came Mrs. Clara Pfeifer Garrett, whose good works as well as the praise of her many artist friends recommended her to the committee. She offered to make the medallion for \$150. The offer was accepted and work was begun at once in a room set apart by Dr. Lutz in the Josephine Hospital. Unfortunately, through the illness of Mrs. Garrett, the work was somewhat delayed; however, the model was completed Feb. 14, 1915, and accepted by the committee. It was then sent to New York and cast in bronze by the Gorham Company. On its return to St. Louis Mrs. Garrett asked the privilege of entering the medallion in competition in the second annual Open Competitive Exhibition of the St. Louis Artists Guild. The Committee, with the consent of Dr. Lutz, granted the request and the first prize in sculpture, the Susan Rebecca Carleton prize of \$100, was awarded the tablet by a jury of out of town artists consisting of Messrs. Chase and Polisek of New York and Mr. Steele of Indianapolis. In the *Bulletin* of the St. Louis Art League, Vol. 11, No. 2, is a photograph of the tablet and in a review of the exhibition Mr. F. C. A. Curley writes: 'Mrs. Garrett in her tablet to Dr. Frank J. Lutz shows praiseworthy capacity to carry a serious sculptural work through to completion in a thoroughly workmanlike manner.' Thus we see that the steps of a good man are ordered by the Lord."

PROGRAM FOR EXCELSIOR SPRINGS MEETING

The Committee on Scientific Work is preparing the program for the next annual session which will convene at Excelsior Springs, May 8 to 10. Members who wish to present papers at this meeting are requested to send their names and the titles of papers, together with an abstract not to exceed 300 words, to any member of the committee as soon as possible. Preference will be given to those members who have not appeared on the program during the past two years. It is especially requested that members outside of St. Louis and Kansas City

will respond more liberally to this request than they have done in past years. There is no dearth of good papers from the two large cities, but the committee as well as the members in these cities desire to hear papers from members in the less populous districts.

It is not practical to read more than forty papers during the session, so we hope those who have interesting and practical papers to present will respond at once to this request and assist the committee in making up an instructive and diversified program.

The members of the committee are Dr. W. J. Frick, 924 Rialto Building, Kansas City; Dr. A. H. Hamel, 3455a Pestalozzi Street, St. Louis, and Dr. E. J. Goodwin, 3517 Pine Street, St. Louis, chairman.

GREAT PROGRESS IN MEDICAL EDUCATION AND IN PUBLIC HEALTH INSTRUCTION

The Twelfth Annual Conference of the Council on Medical Education and the Council on Health and Public Instruction of the A. M. A. was held at Chicago, February 7 and 8. In opening the session on medical education Dr. Arthur Dean Bevan referred to the rapid progress that has been made in standardizing medical education in this country. "We now have as the standard of medical education," said Dr. Bevan, "a seven-year course which equals the standard adopted in any country in the world, and today an undergraduate can obtain a better training in medicine in America than he can in England, Germany, France or Austria. Steps are being taken to make the hospital intern year a legal requirement to practice medicine in all the states." A new medical practice act in Wisconsin provides for the same educational standards for osteopaths as for physicians. The state licensing boards are exerting a powerful influence which is increasing in strength each year toward the improvement of medical education. The number of teaching institutions has been reduced from 166 to ninety-five and the number enforcing reasonable standards for admission have increased from four to eighty-five; the total number of students has decreased from 28,142 in 1904 to 14,891 in 1915—almost 50 per cent. reduction.

A new problem faces the profession because of the laxity of laws governing the incorporation of medical institutions which has invited the growth of medical cults. These institutions pretend to give adequate instruction by correspondence and short attendance periods at the so-called schools in some special form of treatment, and turn out unfit and untrained persons decorated with the title "Doctor" to fool and beguile the people without restriction.

Medical preparedness was discussed and the plan for increasing the medical reserve corps endorsed. General Gorgas said the Army Medical Corps now comprises 440 men with 1,500 physicians volunteer members of the reserve corps which number would enable us to care for 200,000 men. But in case of war the problem would be to care for a million or more men. He urged the Council to do everything in its power to advance preparedness of the profession in case of war. He said the government maintains a correspondence school at Fort Leavenworth for the members of the corps which is effective in training physicians for certain duties such as camp sanitation, laying out field hospitals and the duties and rights which go with the rank as members of the Army. The actual treatment of the sick and wounded is only one side of a soldier-physician's work.

The Council on Health and Public Instruction, presided over by its genial chairman, Dr. H. B. Favill, discussed two important topics—the new Tennessee law establishing a board of preliminary education for examining persons desiring to practice the healing art, but the "act shall not apply to Christian Science or Christian Science practitioners." The other subject discussed was a symposium on "What Should Be the Provisions of a Model Medical Practice Act?" to which the following contributed papers: Dr. Horace D. Arnold, member of the Council on Medical Education, Boston; Dr. Walter L. Bierring, secretary of the Federation of State Medical Boards of the United States, Des Moines, Iowa; Dr. W. J. Means of the Association of Medical Colleges, Columbus, Ohio; Dr. Royal D. Copeland, New York City, representing the Homeopathic School; Dr. John K. Scudder, Cincinnati, representing the Eclectic School; Hon. Thomas S. Hogan, attorney, Illinois State Board of Health, Chicago.

It will be noted that an innovation has been injected into the discussion of this subject at our annual conferences by having representatives of the homeopath and eclectic schools present their views. Joint discussion of this kind will have far more influence toward establishing a common working basis of activity for the general good than was possible when a spirit of intolerant antagonism prevailed such as formerly was rife among us.

One of the most telling speeches was the address of former Governor George H. Hodges of Kansas. "Medical regulation," he said, "is not attempted in the interest of the profession. It is in the interest of the people. The health of the nation is our most sacred heritage. There is no higher duty than to guard the sick man against his own foibles. Had I the power I would scourge every quack, every fake cancer cure concern, and expose their damning methods, branding them as conscienceless mon-

sters fattening on the pain-racked bodies of their victims."

The Association of American Medical Colleges and the Federation of State Medical Boards held a joint session during the two days' meeting and discussed the following topics:

"Teaching of Applied Therapeutics," Francis C. McCrudden, Assistant Professor of Applied Therapeutics, Tufts College Medical School, Boston. "Teaching of Clinical Medicine," L. F. Barker, Professor of Clinical Medicine, Johns Hopkins University Medical Department, Baltimore. "Teaching of Clinical Surgery," A. C. Stokes, Associate Professor of Clinical and Experimental Surgery, University of Nebraska, College of Medicine, Omaha. "The Municipal Hospital as a Factor in Clinical Teaching," H. W. Loeb, Professor of Diseases of Ear, Nose and Throat, St. Louis University School of Medicine, St. Louis.

In attendance at the sessions were the following from Missouri: Dr. E. J. Goodwin, representing the Missouri State Medical Association; Dr. H. W. Loeb, St. Louis, representing St. Louis University Medical School; Dr. George Dock, St. Louis, representing the Washington University Medical School; Dr. Guy L. Noyes, Columbia, representing the Missouri State University Medical School. Dr. H. Unterberg, St. Louis, was appointed by our president to represent Missouri, but he had been misinformed as to the date of the meeting through a typographical error in a published announcement which prevented him from attending.

The Board of Trustees of the American Medical Association held a meeting on Wednesday, February 9, at which Dr. F. J. Lutz of St. Louis, the Missouri member of the board, was present.

VERNON COUNTY MEDICAL SOCIETY IN 1915

Last year was a progressive one for the Vernon County Medical Society. This society has been in existence for about thirty years; many of its original members have "crossed the bar" and are now, we hope, in association with the Great Physician. Those of us now living who were members in the early days are growing old and Father Time has whitened our heads with the frosts and snows of advancing age, but not one has lost his ambition to keep up with the progress of the profession or wavered in his interest in the success of our society. This is proved by the fact that nearly all the physicians of this county are members and attend when they can. It is true there are some who have not become affiliated but we have hopes of gathering them into the fold, thereby making it practically unanimous, for while the "lamp holds out to burn the vilest sinner may return"—not the sin of commission but of omission.

We have many young men in our society, men who are students—who are satisfied with nothing except the very best. They are trained men, having graduated in recent years with the advantage of the clinics and the teaching by the masters, and once in a while they have the "gray heads" thinking. Taking the profession generally in Vernon County, they are gentlemen of good habits, clean conversation and first-class citizens.

We had five meetings in 1915 with an average attendance of twenty-five out of a membership of thirty. We had thirty-five clinical cases, fifteen surgical operations and one new member. We entertained ten visiting physicians from Kansas City and five from St. Louis, every one an able man who knew his subject well. Among the operations performed were the radical cure for double inguinal hernia; removal of fatty tumor; fixation of kidney; curettement; tonsillectomy; hysterectomy; ovariectomy; appendectomy; carcinoma of breast; cystocele; lacerated perineum; varicose veins; hydrocele; tubercular disease of tibia; pterygium; etc. Among the gentlemen with us during the year from St. Louis were Drs. Fred Hall who lectured on the Roentgen ray as an aid to diagnosis and therapy; William Mook, on pellagra; William Engelbach, on gastric and duodenal ulcers; drug addiction with special reference to Lambert-Town's treatment, by H. Unterberg; medical and surgical clinics by Fred W. Bailey at the local hospitals. Kansas City sent us Dr. William F. Kuhn, who explained why some people become insane; Dr. W. W. Duke, Dr. Howard Hill, Dr. L. S. Milne, Dr. George R. Norbert, Dr. Walter S. Sutton, Dr. E. H. Skinner, Dr. Maclay Lyon, Dr. John S. Weaver, Dr. H. E. Pearse and perhaps others who escape my memory just now. It is needless to say that we are always glad to "sit at the feet of these Gamaliels" and hope they will come again.

It must not be thought that these gentlemen confined themselves to medical topics while here. They were taken into the rural districts by the sporting element of the profession to shoot ducks, quail, etc., catch fish and jiggers and have a good time generally. They also had a change of diet—milk from a nontuberculous cow; pure Ozark air, saw the sun rise and heard the birds of early morning.

E. A. DULIN, M.D.

TAKE A TRANSFER

Members who move from one county to another within the state or move from this state to another state and settle permanently in a new location are reminded of the necessity of transferring their membership to the county society in their new place of abode. It sometimes hap-

pens that we receive notice of a member being elected to membership in a county society before he has severed his connection with the society where he formerly lived. It is obvious that such double connection is not consistent with regulations governing membership. We feel sure that most instances of this kind are a result of thoughtlessness on the part of the physician, but occasionally a serious phase is encountered, that is, when a member is in arrears in the county from which he moved. Manifestly, negligence in paying dues promptly at the beginning of each year is detrimental to the interests of all concerned. Membership in the organization brings certain highly prized privileges and at least two very material benefits, namely, subscription to *THE JOURNAL* and assistance of the Defense Committee, financial and moral, when sued for malpractice. Each member owes an obligation to the society which he must first meet before he can honorably participate in these benefits and that is the payment of his annual dues—and that means annual payment. We must not be “skippers;” not the marine variety but the delinquent kind; that is, skip your annual obligation to the society now and then. Each member must pay the county society dues each year in order to maintain good standing.

To county society secretaries especially we desire to point out the necessity of requesting transfers from new members who claim membership in another county society, whether in this state or in another state. This transfer shows the date of the applicant's last payment of dues and will establish whether he is in good standing or not and therefore whether or not he is entitled to apply for membership. If he is in arrears for one or more years the applicant should be required to restore himself to good standing in the society from which he comes before being elected to membership.

Should it happen that a member is undecided about where he will locate he could resign while in good standing and then join as a new member in the county where he finally takes up his permanent residence.

THE COOPERATIVE MEDICAL ADVERTISING BUREAU

The report of the Cooperative Medical Advertising Bureau to the Board of Trustees of the American Medical Association at the meeting of that body in Chicago, February 9, shows the wisdom of establishing this kind of cooperative activity among the constituent associations. The Bureau has rendered assistance to the state Journals which none of them could have secured in any other manner. Advertising contracts have been sent to the journals which would not have been obtainable otherwise. The accounts

are all high class, approved and responsible, and deserve the patronage of our members. We hope each member of our Association will take a personal interest in our advertising pages, for we regard them as being equal in importance to the practitioner as are the reading pages. The charge is constantly being made against us that the state journals do not pay the advertiser because it is said the members do not read the advertisements in the state journal, the inference being that these same doctors do read and respond to the advertisements in the journals not conducted under such strict rules as we have established for our official organ. Members, do not forget that this *JOURNAL* is your property, that the income from the advertising pages goes into the treasury of the State Association, that you are the beneficiary of *THE JOURNAL*'s success. Do not forget that the advertiser looks for inquiries and correspondence concerning the articles advertised in *THE JOURNAL* as an index of the value of the service we render. You need, at one time or another, something that is advertised in our pages so when you do need it write our advertiser first and tell him you do so because his announcement is in your *JOURNAL*. The Publication Committee desires to give you a larger and a better *JOURNAL*. You can help us do this by merely doing what you would do under similar circumstances for interests not so closely identified with your own interests as is this *JOURNAL*. So protect yourself and your Association by doing your “bit.”

This month we publish the new advertisement of the Standard Oil Company—Polarine. They have given us a twelve-months' contract which means \$200 in your treasury. You all know what it is but do you know that this is its first appearance in our state journal? The company wants your patronage and contributes to the advertising income of your *JOURNAL* for the privilege of presenting the merits of Polarine to you. Let them know you use it.

O. & W. Thum ask your cooperation to prevent accidents and deaths among children from poisonous preparations to kill flies. Not a few deaths and considerable sickness among children are due to drinking liquid preparations of this nature. “Tanglefoot” is nonpoisonous and effectively destroys flies. Let your patrons know about the menace of poisonous fly preparations to child life.

Mead, Johnson and Company have had wonderful success with their infant food which they have advertised and sold only through physicians. They announce in this number the removal of their factory from Jersey City, N. J., to Evansville, Ind., with an increase of floor space from 18,000 to 300,000 square feet.

Frank S. Betz & Co. offer \$100 for an idea. See their advertisement for particulars.

Cooperation is the life of the Association.

IT PAYS THE MANUFACTURER TO MAINTAIN ETHICAL STANDARDS

The first commandment for the direction of the manufacturer under our standards is: Thou shalt not offer to both physician and public, by advertising or otherwise, anything which requires medical skill to properly use. Non-observance of this commandment is sure to result in harmful effects on the public and hampers the physician in the practice of scientific and even rational medicine.

In this connection the notice of the removal of the Dextri-Maltose manufacturing plant from Jersey City to Evansville, Ind., published in our advertising pages, deserves more than passing attention. It furnishes striking proof that success awaits the manufacturer who produces something the physician really wants, and markets his products in accordance with the standards set up by doctors for the sale of products they use. Reform in the manufacture and sale of infant foods was as inevitable as the reform that has taken place in the sale of pharmaceutical products. The day of mystery and tradition in infant feeding is passing rapidly.

The firm which announces its removal from the East to larger opportunities in the West early recognized the requirement by the medical profession for a product used in infant feeding, made and sold exclusively for physicians, with no appeal nor information to the public.

While the firm may not deserve special commendation for the course it has pursued, it being its duty to follow it, we feel nevertheless that it is only fair to express our acknowledgments of the action.

OBITUARY

JOHN P. RALSTON, M.D.

Dr. John P. Ralston, Springfield, a graduate of the American Medical College, St. Louis, 1880, died Jan. 30, 1916, aged 65. Dr. Ralston had been a member of Greene County Medical Society and the Missouri State Medical Association for many years and his friends will be grieved to learn of his death.

JAMES HENDERSON MOFFITT, M.D.

Dr. James Henderson Moffit, born in Henderson County, Ky., June 10, 1848, died at his home in Redford, Mo., Jan. 7, 1916, aged 68. Dr. Moffit was licensed in Missouri in 1883 and has practiced the greater part of the time in Reynolds County. He was a member of the Reynolds County Medical Society and Missouri State Medical Association.

ALFRED W. TITTERINGTON, M.D.

Dr. Alfred W. Titterington of Richland, Mo., died at his home from a malignant growth of the liver, Jan. 3, 1916, aged 81. He was born in Hopkinsville, Christian County, Ky., but has been a resident of Missouri for about fifty years and has practiced medicine until within the last ten years, when his health failed. He was a genial man and liked by all who knew him. He was an uncle of Dr. James L. Titterington of Richland, who is a member of the Pulaski County Medical Society and the Missouri State Medical Association.

STEPHEN F. CARPENTER, M.D.

Dr. Stephen F. Carpenter, a graduate of the University of Louisville Medical Department, 1871, died at his home in St. Joseph, Feb. 15, 1916, from apoplexy, aged 70.

Dr. Carpenter was a native of Virginia and came to Missouri when a child. He was a member of the Buchanan County Medical Society and the Missouri State Medical Association. In December, 1914, the Buchanan County Medical Society elected him to honorary membership in that body. He was a member of the faculty of medical colleges in St. Joseph and for many years was active in both medical and civic affairs, and was widely known throughout Northwest Missouri.

SHERMAN MILLER, M.D.

The following expressions of sympathy and sorrow were adopted at the meeting of the Bates County Medical Association Jan. 6, 1916, on the untimely death of our confrère and fellow-member, Dr. Sherman Miller of Mayesburg, which occurred Nov. 11, 1915.

Dr. Miller was graduated from the St. Louis College of Physicians and Surgeons in 1893. He was a faithful member of the society and loyal to the profession which he loved. He was much liked, not only as a physician, but as a citizen by those whose good fortune it was to know him.

It was sad news indeed when the report came of his tragic death and one was reluctant to realize at first that Dr. Miller was dead. It was the sad privilege of the committee to attend the funeral of Dr. Miller with whom we had spent many pleasant hours and had learned to love as a brother. The great throng of sorrowing friends that gathered to pay their last tribute of respect was proof of his sterling worth and standing in the community in which he lived and practiced his profession.

WHEREAS, The Great Physician in His providence has seen fit to remove from our midst and from all earthly labor, our friend and brother Dr. Sherman Miller; be it

Resolved, That we as members of the Bates County Medical Association, extend to the bereaved wife and children of our deceased brother our heart-felt sympathy and stand ever ready to console and to counsel with them at any future time; be it further

Resolved, That a copy of these resolutions be spread on the minutes of the Bates County Medical Association, published in the State Medical Journal, and a copy furnished the family of our deceased brother. Done by order of the Bates County Medical Association.

T. F. LOCKWOOD,
E. N. CHASTAIN,
J. S. NEWLON,
Committee.

DR. EDWARD H. THRAILKILL

Edward H. Thrailkill was born in Holt County, Mo., where his parents were temporarily sojourning, March 22, 1861. The home of this branch of the family was in Clay County, where his grandparents immigrated from Kentucky while Missouri was still young. When the boy was but a few years old the family removed to Clay County where he grew to young manhood. His medical education was acquired in the old Kansas City Medical College, from which he was graduated in 1889. Shortly after he took a course in the New York Post-Graduate College, New York City. Kansas City has been his field of labor from the time of his graduation until his death which occurred Dec. 7, 1915. It was here that the trials that confront the young professional man were met; it was here that his early successes stimulated him to renewed hope and energy. During the early years of his professional career he was demonstrator of anatomy, professor of anatomy and finally was made professor of proctology by his mother school. This last chair he held until the school was absorbed by the University of Kansas. For the last fifteen years Dr. Thrailkill devoted his attention almost if not quite exclusively to his chosen specialty, proctology; and that, too, with so much ability, that his clientele was large and came from many parts of the country. He was a member of the staffs of St. Joseph, Swedish and Bethany hospitals. He was a member of the American Proctologic Association, the American College of Surgeons, the Missouri State Medical Association, the American Medical Association and the Jackson County Medical Society; of the last-mentioned society he was a member twenty-six years. It was to this society that Dr. Thrailkill was especially devoted and for the benefit of which he gave so much of his time and talent to make it a success. He was its librarian while the society was trying to build up and develop a library. He was our secretary three terms, twice our vice president and president in 1905-1906. He made many friends, warm friends, and so closely did he grapple them to his inner self, by reason of his honest heart and gentlemanly

demeanor, that it must have been a rare instance indeed to find a member of our society who was not a friend and admirer of Ed Thrailkill. As a student Dr. Thrailkill was attentive, as a practitioner he was able and conscientious, as a man he was honest and as a citizen he was valuable to the state.

The Jackson County Medical Society mourns with his widow, Mrs. Minnie Thrailkill, his brother, John Thrailkill, and his sister, Mrs. Rutherford, and begs to express to them its sympathy in this their hour of grief.

AMOS A. FREYMANN,
BERTAN H. WHEELER,
H. B. COLEMAN,

Necrologic Committee.

—From *Weekly Bulletin* of Jackson County Medical Society.

NEWS NOTES

THE class of 1821 St. Louis Medical College will celebrate its thirty-fifth annual at a dinner to be given in the University Club, St. Louis, March 2.

A CHIROPRACTOR named Schornhorst was convicted in the criminal court at Higginsville, February 9, for practicing medicine without a license. He was fined \$50.

DR. J. D. GRIFFITH, Kansas City, celebrated his 66th birthday at a dinner, February 12. About fifty guests attended among which were a number of out-of-town physicians.

DR. HASBROUCK DELAMATER, deputy health commissioner of Kansas City, received a painful injury February 5 which required surgical attention when his automobile "kicked" while he was cranking up.

DR. MAJOR G. SEELIG, St. Louis, was the guest of the Jackson County Medical Society, February 29, and read a paper on "Acute Hemorrhagic Pancreatitis as a Possible Factor in Fatal Cases of Acute Intestinal Obstruction."

FAULTY diagnosis of smallpox resulted in the spread of the disease among the inmates of the Children's Home Society of Missouri at St. Louis and ten patients were removed to the infectious disease hospital. The disease had been diagnosed chickenpox.

THE Kansas City Academy of Medicine held its annual banquet at the Hotel Muehlebach, February 5. About 200 physicians attended. Speeches were made by Drs. C. Lester Hall and B. H. Zwart, Kansas City, and Dr. A. J. Ochsner, Chicago, the guest of the evening.

ACCORDING to news dispatches the grand jury at Kansas City refused to investigate information concerning quack doctors because the members of the jury thought such an investigation would "take too long." Two physicians in that city had been arrested recently for wholesale violation of the antinarcotic law.

A HOSPITAL incorporated as a charitable institution cannot be sued for damages by patients. Such was the decision of the circuit court of St. Louis January 24, when a patient sued to recover damages for an injury alleged to have been caused by a nurse who began a massage and through error started to use carbolic acid instead of alcohol.

THE General Hospital at Kansas City with its wealth of clinical material will be utilized in the near future as a source of education for practicing physicians by the establishment of postgraduate courses under the control and direction of the Hospital Board. Announcement of the clinics will be made as soon as arrangements have been completed.

MEMBERS of the City Club of St. Louis, "a social club with a civic purpose," visited the Barnes Hospital, the Children's Hospital and the Dispensary of the Washington University Medical School, February 19. About 100 members of the club and a number of ladies were shown through the institutions by the officers of the hospitals and members of the staff of the medical school.

DR. M. F. ENGMAN, St. Louis went to Washington during February and attended a meeting of the senate committee on Public Health and National Quarantine when it considered a bill to establish a federal leprosarium. The bill has passed the house of representatives. Dr. Engman presented arguments in favor of the passage of the bill. Members of our Association are requested to write our senators to give this bill favorable consideration. The number of the bill is S. 4086.

A DISTRICT society composed of the health officers of fourteen cities within the radius of 40 miles of Joplin was proposed by Dr. D. R. Hill, health commissioner of Joplin, and a meeting was held at the Conner Hotel at Joplin, February 17, with the view of completing the organization. The following cities were invited to send representatives: Galena, Kan.; Pittsburg, Kan.; Weir City, Kan.; Monett, Aurora, Carthage, Webb City, Carterville, Neosho, Lamar, Mo.; Columbus, Kan.; Girard, Kan.; Baxter Springs, Kan., and Miami, Okla. The purpose of the society will be to cooperate to prevent the spread of contagious diseases within the borders of these cities and from one city to another.

MEMBERSHIP CHANGES, FEBRUARY

NEW MEMBERS

William H. Allen, Rich Hill.
Wallace M. Bickford, Marshall.
E. W. Caveness, Kansas City.
John F. Chandler, Oregon.
Lawrence E. Cooper, Cooter.
Henry Gray, Prairie Hill.
Charles F. Greene, Bakersfield.
W. H. Knott, Jasper.
Joseph L. Minton, Fortescue.
F. A. Mayes, Hayti.
Thomas C. Piles, Ellington.
E. V. Rawlins, Marshfield.
Hans Schaerrer, Hartsburg.
James W. Shopshire, Keytesville.

CHANGES OF ADDRESS

Bert W. Babcock, Fortescue to St. Joseph.
Fred H. Carver, Madison to Waitsburg.
H. DeLamater, 2803 Troost to 3647 Benton, Kansas City.
Robert E. Hogan, St. Louis to West Plains.
Ross Hopkins, St. Louis to Independence, Kan.
Leo C. Huelsman, Silver City, N. M., to Avalon, Catalina Island, Calif.
N. W. Jarvis, Bloomsdale to Festus.
W. H. Leonard, 601 S. W. Boulevard to 1822 Main Street, Kansas City.
A. L. Lemon, Otterville to Riley, Kan.
J. H. Martin, Pilot Knob to Edgehill.
J. P. McCann, La Monte to Warrensburg.
Benjamin E. Moody, Clarence to College Mound.
Louis J. Wolford, 709 Pine Street to 314 Chemical Building, St. Louis.
J. H. Nixon, Chicago to Winchester, Va.
J. W. Perkins, Altman Building to 1005 Campbell Street, Kansas City.
D. L. Porterfield, Hickory to Jamesport.
Prem J. Ross, St. Joseph to Grant City.
C. M. Stokes, Canalou to Bath, Ill.
T. G. Tiemann, 613 N. Boulevard to 1822 Main Street, Kansas City.
George W. Wood, Iconium to Bristol, Colo.

TRANSFERRED

Jesse P. Baird, Marionville, to Tennessee Medical Society.

RESIGNED

W. L. Griffin, Lamar.
W. M. Lenox, Hobson.

DROPPED

William E. Barton, Woodriver, Ill.
D. R. Griffith, Creighton.
E. M. Griffith, Creighton.
Z. M. Hampton, Centralia.
A. T. McMurtrey, Salem.

DECEASED

Patrick D. Connolly, St. Louis.
 Stephen D. Carpenter, St. Joseph.
 James H. Moffit, Redford.
 John P. Ralston, Springfield.

CORRESPONDENCE

SOME EXCELLENT SUGGESTIONS

BUTLER, Mo., Jan. 14., 1916.

To the Editor:—I think the article from Dr. F. M. Douglas of Clinton in the January issue of THE JOURNAL is worthy of the consideration of every secretary in the state, for it no doubt expresses the feelings and sentiments of every secretary outside of the larger cities. I would not think that the secretary of any county society personally possessed any secret methods of obtaining a good attendance of the members at the regular monthly meetings.

I read in THE JOURNAL the reports of the various county society meetings and always find that certain counties have fewer in attendance than others. Why is this? Is it because they have fewer physicians in the county or is it that only 25 per cent. of the physicians belong to the county and state societies? Not at all. It simply demonstrates to my mind that there is a lack of interest and enthusiasm in that particular county and that so many physicians are unwilling to sacrifice a few hours of their time to prepare a paper and offer their presence at the regular monthly meeting for it to be read and discussed.

Another reason why some physicians lose interest in the society is that they become imbued with the idea that the society is run and governed by the dictations of a certain few who seem to take the lead. This is a mistaken idea and should be stamped out. Any member who is in good standing is entitled to all the privileges of membership and one who pulls back for such a cause not only does an injustice to the society but willingly (perhaps not knowingly) brings upon himself a greater jeopardy. That of losing his prestige in the society to which he belongs and its many advantages which he would otherwise enjoy.

The office of the secretary involves several important duties. The first important duty is to secure the regular payment of dues, reinstate all delinquents if possible and endeavor to affiliate every physician in the county with the local society. The importance of joining the local society may never occur to some men located at a distance unless solicited by the secretary either personally or by letter.

Another duty of the secretary is the outlining of an interesting program. Topics should be

chosen on certain diseases that are most prevalent at that particular season of the year and the latest methods of treatment should be especially discussed. In connection with this I wish to say that the reading of papers and their discussion is not sufficient for the completeness of any medical meeting. Neither will the meeting result to the complete satisfaction of all present unless there is clinical material for the demonstration of some particular disease. A clinic of some sort should compose a part of every program. It is difficult for one or two to arrange a clinic for every meeting, but if every member would shoulder the obligation equally in an effort to furnish a case it would be an easy matter, the meetings would be more interesting and there would be more members faithfully in attendance. If after a succession of interesting programs and clinics should fail in the result of a satisfactory attendance some other activity should be resorted to without delay. For instance, it would be well for all county societies to hold an open meeting in some public building at least four times a year for the discussion of public health and advertise it well in order to secure a large and interested audience. Include in this program some special music by the best orchestra obtainable and songs by the best singers and short readings by the best readers in the community and many other things could be done to arouse interest.

Every county society should prepare every three months a program and banquet for their members and their wives, and once or twice a year hold a joint meeting with some adjacent county society with banquet included. This I believe will create more enthusiasm and bring the members into closer harmony than any other method, and the attendance of the private meetings between the banquets and open meetings I am sure will be greatly and surprisingly increased.

J. S. NEWLON, M.D., Secretary,
 Bates County Medical Society.

 FOUR CLASSES OF MEMBERS

EXCELSIOR SPRINGS, Mo., Jan. 13, 1916.

To the Editor:—Replying to Dr. F. M. Douglas, secretary of the Henry County Medical Society in the January JOURNAL, I wish to say that his questions cover some of the most vital points in successful medical organization. His first statement, "having a good program prepared," speaks wonders, and is the first essential. Now, how shall we get the members to attend?

A close study of the makeup of the average doctor will put him in one of three classes, namely:

1. The zealous fellow who is always a student.

2. The busy fellow who always has a case on hand.

3. The fellow who nurses a sore spot at some other fellow.

4. The medical ninkumpoop.

From this classification, three out of four members will not show up on meeting nights. The ninkumpoop is too lazy to exert himself, unless he happens to fall in the fire. He cudgels his poor little brain, wondering why business is dull. He never heard of the word enthusiasm. You cannot get blood out of a turnip.

The fellow with the sore spot may carry a chip on his shoulder, or he may have knocked one off the other fellow's shoulder. A little bit of cordial friendship shown may carry him in on its wave. His is not a hopeless case. Medical men should not forget that they all live in glass houses and should be careful about throwing stones.

If we can interest, enthuse and persuade, we may do what has looked like the impossible. Here are the first steps as they occur to a man who has belonged to all the above classes:

1. Get strangers or visiting men to address you at your meetings.

2. Have something to eat if possible. The appetite often will land the ninkumpoop.

3. Encourage the social feature of meetings. Have the wives of members come along.

4. Have the papers read on something that is of absolute use to the average member and a subject he cannot afford to miss.

5. Keep in the most cordial relationship with the State Secretary and THE JOURNAL.

6. Give a sharp degree of ethical publicity to your meetings and the members who are alive in attendance. The public has a right to know who the ninkumpoops are if they are beyond redemption.

J. J. GAINES, M.D., Secretary,
Clay County Medical Society.

MISCELLANY

HAS HE BEEN IN MISSOURI?

At present certain persons are going over the state endeavoring to interest physicians in a new form of medical defense proposed by one of the large and well-known indemnity insurance companies. In direct connection with this enterprise the editor of the *Journal* has received many inquiries concerning the standing and reliability of the Medical Protective Company of Fort Wayne, and in every instance the inquiry has been coupled with the assertion that an agent for the company offering the new form of insurance has reported that the Fort Wayne organization is financially unsound or has failed to fulfil its obligations to policy holders.

We have no quarrel with an agent who sells something on its merits, but when he attempts to sell something by intimidating those who hold policies in other companies, and who attempts to build up by tearing down others, we believe that it is time to utter a word of caution. We have absolutely no interest of any kind whatsoever in the Medical Protective Company of Fort Wayne, but we do say that until that company has failed in a single instance to live up to all of its obligations, it is the height of impudence, to say nothing of being unfair business tactics, for any insurance representative to say anything against the character of that company. So far as the financial standing of the company is concerned, the best evidence of its stability is proved by the fact that the company, in order to do business in Indiana, has \$100,000 in the hands of the auditor of state, and that amount of money stands as a guarantee that the policy holders in Indiana will be cared for in full accord with all of the provisions of their contract. The company claims a surplus of over \$150,000 and the amount has been steadily increasing. If further evidence is required, policy holders or prospective policy holders can obtain full information through the auditor of state, or any one of the local Fort Wayne banks. But aside from all this, we believe that doctors should steer clear of those insurance agents who try to build up by tearing down others. They are a good class of people to avoid, just as the doctor who is always knocking other doctors is a good one for the public to avoid.—*The Journal of the Indiana State Medical Association*, November, 1915.

POISONOUS FLY PAPERS

A year ago, in discussing this subject editorially, we gave a partial report of the cases of arsenical poisoning of children from accidentally consuming the contents of fly destroying contrivances during the summer of 1914. It was gratifying to note the number of medical journals that reprinted our editorial or commented on the subject. The discussion was evidently a timely one.

For the summer of 1915 we have been able to secure the reports of the following cases.

Month	No.	Fatal	Recovery Indicated	Recovery Doubtful
May	1	1		
June	2			2
July	5	2	2	1
August	14	5	8	1
Totals	22	8	10	4

These cases were reported by the daily press as occurring in the following states: Georgia, 1; Illinois, 6; Indiana, 2; Iowa, 2; Massachusetts, 2; Michigan, 2; Missouri, 1; Nebraska, 1; New York, 1; Oklahoma, 1; Ohio, 1; Pennsylvania, 2; a total of 22 cases. This report must necessarily be considered as very incomplete and but an indication of the possible extent of a wholly preventable danger.

We again point out the fact that the symptoms of arsenical poisoning are very similar to those of cholera infantum and that undoubtedly a number of the cases of cholera infantum that occurred were really cases of arsenical poisoning, and death if occurring, was attributed to the fact. The cases reported were of children ranging in age from 1 to 6 years. These little patients are not old enough to tell what they have taken when questioned as to their illness and unless they are seen consuming the fly poison the actual cause of their sickness or death is overlooked and the fatality ascribed to cholera.

infantum or to some other similar causes and the error in diagnosis goes undetected.

We repeat, arsenical fly-destroying devices are dangerous and should be abolished. Health officials should become aroused to prevent further loss of life from their source.

Our Michigan legislature, this last session, passed a law regulating the sale of poisonous fly papers. Similar enactments should be secured and enforced in every state in the Union.—*Journal of the Michigan State Medical Society.*

LOVING CUP TO DR. WOODSON

There was an innovation at the annual banquet of the Buchanan County Medical Society at the Elks' Club, Jan. 26, in that the doctors were accompanied by their wives for the first time in the history of the organization. Heretofore the dinners have been stag affairs, but this one was so generally enjoyable that Dr. J. F. Owens, toastmaster, predicted that there would be no disposition to return to the old order.

It was an evening of fun and frolic, with occasional serious spots, and of general good feeling. The most important feature, perhaps, was the presentation to Dr. C. R. Woodson of a loving cup, as a token of the respect in which he is held by the local society, and of that society's appreciation of the fact that one of its members has been elected president of the Missouri State Medical Society. It is a beautiful silver cup, 14 inches in height, with the following inscription:

Presented to

DR. C. R. WOODSON,

President of the Missouri State Medical Society, 1915-1916,

By Buchanan County Medical Society.

The presentation speech was made by Dr. C. H. Wallace. In his remarks of acceptance Dr. Woodson referred to the fight that had been made on him, following his election as head of the state society, and he spoke feelingly of the manner in which the local society had stood behind him.

Dr. J. F. Owens, the retiring president of the county society, briefly reviewed the work accomplished by the organization within the last year, mentioning particularly the crusade against quackery and irresponsible medical advertising.

A quartet comprising Drs. G. R. Stevenson, Caryl Potter, Louis Bauman and H. S. Conrad sang a number of ballads, mostly old tunes fitted with new words, to hit off their conception of the local medical situation. Dr. Potter was made up to impersonate Dr. Woodson, and Dr. Stevenson to impersonate Dr. R. Willman, the first named appearing with a basket of red apples and a jug of cider.

The principal event of the humorous program was a playlet, "The Doctor's Dilemma," in which nine physicians, in more or less effective makeups, turned the calcium upon the frailties of the profession. Each of the characters had a hobby. That of Dr. J. I. Byrne, as Sir Hodge, was blood poisoning. All the ills to which human flesh is heir, in his opinion, could be reduced to that fundamental ailment. Dr. G. R. Stevenson's hobby was germs. Without germs there could be no disease, in his opinion. His name in the cast was Sir Levi Long. Dr. Thomas Lynch, as Sir Robert Hargraves, subscribed to the doctrine of antitoxin, and used it for everything from chilblains to consumption.

Dr. Charles Greenberg as Lydia Hillside, office girl, was generally voted a "scream." His was the most elaborate makeup of the cast, and his stage man-

ner left nothing to be wished. Dr. F. X. Hartigan as Redpenny, a student, was good, as was Dr. G. M. Boteler, a *News-Press* reporter. As a reporter, he talked about the ethics of advertising with Sir Rudolph Willman, and mentioned the different ways in which different doctors get their names before the public. One of the most effective, he said, was to have some one with a loud voice appear on the platform at a public meeting and shout: "Call for Dr. Blank! Is Doctor Blank in the house? He is wanted immediately at the telephone! Very important!"

This was done very effectively, he said, at the Billy Sunday and Champ Clark meetings in the Auditorium.

"How does Dr. Beard advertise?" asked Sir Rudolph Willman.

"Oh, he's a policeman," was the reporter's answer. "He's getting a lot of advertising, and he expects to practice medicine later."

The playlet is said to have been the work of Dr. A. L. Gray.

Among those present were: Dr. L. C. Bauman, Dr. and Mrs. Thomas Redmond, Dr. and Mrs. W. H. Minton, Dr. and Mrs. Daniel Morton, Dr. and Mrs. G. R. Thompson, Dr. and Mrs. O. G. Gleaves, Dr. and Mrs. A. R. Timmerman, Dr. and Mrs. Thomas Lynch, Dr. and Mrs. Emmett F. Cook, Dr. F. X. Hartigan, Dr. and Mrs. G. R. Stevenson, Dr. and Mrs. W. L. Kenney, Dr. and Mrs. F. G. Beard, Dr. and Mrs. F. P. Meyer, Dr. and Mrs. M. J. Farber, Dr. and Mrs. J. F. Owens, Dr. C. R. Woodson, Dr. Charles H. Wallace, Dr. P. I. Leonard, Dr. Charles Geiger, Dr. Oliver C. Gebhart, Dr. John M. Bell, Dr. George M. Boteler, Dr. J. J. Bansbach, Dr. Charles Greenberg, Dr. M. S. Gray, Dr. J. H. Sampson, Dr. B. W. Toothaker, Dr. W. L. Whittington, Dr. O. A. Schmid, Dr. C. F. Byrd, Dr. J. B. Reynolds, Dr. Floyd H. Spencer, Miss Mary Dahlgren, Dr. and Mrs. W. J. Hunt, Dr. and Mrs. E. A. Gunmig, Dr. and Mrs. W. J. McGill, Miss Edna W. Potter, Mrs. R. N. Whitney, Dr. and Mrs. Caryl Potter, Dr. and Mrs. J. W. Ferguson, Dr. and Mrs. W. C. Proud, Dr. and Mrs. A. B. McGlothlan, Dr. and Mrs. A. L. Gray, Dr. and Mrs. H. S. Conrad, Dr. and Mrs. Herbert Lee, Dr. and Mrs. W. F. Goetze, Miss Florence Burt, Dr. and Mrs. L. A. Todd, Mr. and Mrs. K. B. Randolph, Dr. and Mrs. J. I. Byrne, Dr. R. Willman, Dr. Leroi Beck, Leroi Beck, Jr., Miss Minnie Beck, Dr. C. H. Werner, Miss Nell Moran.

SUMMARY OF THE ANNUAL REPORT OF THE SURGEON-GENERAL OF THE UNITED STATES PUBLIC HEALTH SERVICE

The annual report of the surgeon-general of the United States Public Health Service records the largest amount of work performed in the history of that organization. Since the passage of the law of 1912 the public health functions of the service have materially broadened, thereby increasing greatly its usefulness to the American people. Throughout the report the economic importance of disease prevention is made apparent to the reader.

Perhaps the most important achievement of the year was the discovery that pellagra is a deprivation disease, resulting from a faulty diet containing an excess of carbohydrates. While the final experiments which led to this discovery have only recently been completed, the conclusion itself is the culmination of investigations extending over a period of seven years. The work has consisted of epidemiologic field studies, actual feeding experiments conducted at numerous

places in Georgia and Mississippi, and experimental research at Spartanburg, S. C., and other places.

A new national quarantine station was opened at Galveston, Texas, and the control of the Boston station was transferred to the Public Health Service. A great reduction in immigration has been observed during the year, with a corresponding increase in the number of aliens certified. At the port of New York, the percentage has risen from 2.29, previous to the development of the European conflict, to 5.37 since that time, this increase largely being due to the fact that with the decreased immigration more time can be devoted to the examination. The number of cases treated at marine hospitals and relief stations exceeded 55,000, 15,000 of which were hospital patients, a considerable increase over previous years. The coast guard cutter *Androscoggin* was fitted out as a hospital ship and now affords relief to deep-sea fishermen on the banks of Newfoundland.

On the occurrence of plague at New Orleans, the first outbreak on the gulf seaboard, the state and local health authorities requested the Public Health Service to take charge of the situation. Extensive rat-proofing and other antiplague measures were undertaken, resulting in the eradication of the disease from among human beings, and the practical extermination of the rodent infection.

Great reduction in the incidence of malaria was obtained in localities where surveys were conducted. Drainage projects, rice culture studies and the conditions surrounding the impounding of water for power purposes were investigated in order to eradicate as far as possible the disease in these areas. Scientific investigations of malarial infection showed that in the latitude of this country the most important agent in carrying the infection through the winter season is man, and not the infected, hibernating, *Anopheles* mosquitoes, as was previously supposed. From the standpoint of prevention this is a discovery of considerable value.

Studies of occupational diseases and industrial hygiene were instituted at several places during the year. A survey of the industries of Cincinnati was made to determine the cause of the prevalence of tuberculosis among industrial workers. The investigations relating to the migration of persons suffering from tuberculosis were completed.

On the request of the health authorities of five states, the organization and operations of the respective boards of health were studied and recommendations advanced for improvement in the powers and duties of these bodies. The health organizations of several cities were likewise investigated.

Investigations of the pollution of streams and the examination of shellfish were also conducted.

Trachoma was combated in the Appalachian Mountains, where it is most prevalent, over 12,000 cases being treated. Survey in certain states during the year showed that the disease is not an uncommon infection.

Rural sanitation work was conducted in six different states and everywhere resulted in the reduction of typhoid and other communicable diseases.

Public health laboratories for the prevention of the interstate spread of disease were established at Chicago, Seattle and numerous other railway centers.

Additional duties have been imposed on the service by extension of relief benefits to the newly organized coast guard and the physical examination of seamen applying for the rating of "able seaman." For this reason, and because of the greatly increased health functions of the service, an increase in the commissioned personnel is recommended. An additional building for the Hygienic Laboratory and the establishment of a national leprosarium for the proper segregation and care of cases of leprosy are also recommended.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL, 1916

(UNDER THIS HEAD WE LIST THE SOCIETIES WHICH HAVE PAID THE STATE ASSESSMENT FOR ALL THEIR MEMBERS)

Webster County Medical Society, Dec. 15, 1915.
Benton County Medical Society, Dec. 16, 1915.
Cape Girardeau County Medical Society, Dec. 19, 1915.
Schuyler County Medical Society, Dec. 22, 1915.
Atchison County Medical Society, Dec. 27, 1915.
Clark County Medical Society, Jan. 1, 1916.
Madison County Medical Society, Jan. 10, 1916.
Clinton County Medical Society, Jan. 11, 1916.
Sullivan County Medical Society, Jan. 17, 1916.
Phelps County Medical Society, Jan. 17, 1916.
Camden County Medical Society, Jan. 18, 1916.
Dent County Medical Society, Jan. 31, 1916.
Barton County Medical Society, Feb. 3, 1916.
Moniteau County Medical Society, Feb. 7, 1916.
Henry County Medical Society, Feb. 21, 1916.

PROCEEDINGS OF THE WASHINGTON UNIVERSITY MEDICAL SOCIETY

Twenty-Third Meeting, Oct. 11, 1915

1. EXHIBITION OF CASES.
2. A CASE OF TRICHINOSIS WITH A DEMONSTRATION OF THE EMBRYO IN THE BLOOD.—By DR. MORRIS FLEXNER.

Patient is a white male, aged 24 years, admitted to the medical service, Barnes Hospital, Oct. 4, 1915, complaining of swelling of the eyes, pain in the lumbar region and fever. Family history, negative. Past history, unimportant.

Present illness began five days before admission with headache and malaise. His eyes became swollen and on the second day painful and sensitive to light. Fever developed and he had a chill. Fever varied between 102 and 104 F., until admission. On admission patient said he felt better than at any time since onset. Temperature, 101; pulse, 100; respiration, 26.

The positive findings on physical examination were:

1. Edema of both eyes, with diffuse conjunctivitis.
2. A few scattered râles in chest.
3. Soft systolic blow at apex, freely transmitted.

Blood examination: Red cells, 6,268,000; white cells, 6,000; hemoglobin, 90 per cent.

Differential count: Lymphocytes, 13.5 per cent.; large mononuclears and transitionals, 8.5 per cent.; polymorphonuclear neutrophils, 54.5 per cent.; eosinophils, 23.5 per cent.

Because of the edema of the eyes and eosinophilia trichinosis was suspected and, on questioning, the patient admitted having eaten raw hamburger steak, twelve to fifteen days before admission. He had had no intestinal disturbance.

Blood was examined according to Stäubli's method: Ten c.c. of blood were added to 3 per cent. acetic acid; this was centrifuged and the sediment examined with the low power of the microscope, using a mechanical stage; three embryos were found in all.

In 1905 Stäubli first obtained embryos from the blood of guinea-pigs, using this method. In 1909 Herrick and Janeway first recovered the embryo of *Trichinella spiralis* from the human blood. In 1910 Mercur and Baroch; Packard, Cross and Lamb all reported the recovery of embryos from the blood.

In my brief review of the literature I have found no other cases reported.

DISCUSSION

DR. L. H. HEMPELMANN: I had a typical case of trichinosis under observation in August, 1914. At the onset the patient had a violent diarrhea which persisted in spite of treatment for six or seven days; edema of the lids appeared on the tenth day of his illness. I saw him first on the following day. At that time he had a temperature of 102.5, his eyelids were moderately swollen and he complained of stiffness of the muscles. Examination of the blood showed 45 per cent. of eosinophils on the eleventh day and a count made on the fourteenth day showed 8,200 leukocytes, of which 37.8 per cent. were eosinophils. The muscular pains were very moderate indeed, and did not at any time approach in severity the pains one often meets in an ordinary case of grip. The patient improved so that by the eighteenth day of his illness his temperature had come down to 100 and he said he felt so well that he asked for permission to dictate some letters. In the afternoon of this day he was seized with a sudden severe pain in the region of the heart, he became pulseless, expectorated bloody sputa and died five hours later apparently of a pulmonary embolus. It seems that pulmonary emboli are not infrequent in trichinosis and have to be reckoned with in giving a prognosis in any given case.

DR. DOCK: There are a number of points of interest about this case, not the least being the excellent way in which Dr. Flexner did his work.

By a curious coincidence, Pratt of New York in the last number of *The Journal of the American Medical Association* reported three cases of trichinosis with symptoms of sinusitis. Sinusitis is very common and is getting to be more frequently recognized. In this case the congestion of the conjunctivae was out of proportion to the edema and therefore suggested inflammation of the sinuses rather than the edema in trichinosis. Moreover, the edema subsided so rapidly that in a few days it was hardly recognizable. Such cases emphasize the fact that the milder forms of trichinosis are not as distinctly borne in mind as the more severe ones, and textbooks still speak chiefly about cases resembling typhoid, rheumatism or beriberi.

Another point of interest is the change in the name of the disease. Trichinosis is, perhaps, one of the most familiar medical names and has given rise to verbs and adjectives. It may seem strange, then, that it should be replaced by a new name, trichinella, and it may be worth while explaining why this came about. The change is due to an important movement affecting all departments of biology and has for its principle priority of description and of name. How this principle causes difficulty is shown by the history of trichinosis. As every one knows, the name was given by the zoologist, Owen, in 1835, but it was not until long after that the relation of the parasite to human pathology was recognized. I remember hearing my teacher, Leidy, tell how he found the parasites in pork by observing specks like grains of salt on ham on his boarding-house table. Being in the habit of examining everything possible with the microscope, he did so in this case and found the trichinae. That was in 1847, but not until more than ten years later did Zenker first show the relation of the pork parasite to human pathology. Those who visit Dresden will still find in the Pathological Institute of the City Hospital the original pictures made by Zenker. In the work that followed, one of the most important advances was made by T. R. Brown of the Johns Hopkins Medical School, in 1897. Even before that Ehrlich had shown that eosinophilia occurs in cases with animal parasites. But Brown showed how this fact could be used in the diagnosis of

trichinosis. Even after that the old name was still used, but in 1895 the French medical zoologist, Railliet, showed that the generic name was not valid. The reason for this is that in 1830 a hair-like worm was found in certain flies and the name trichina was given to it, but its existence was ignored. Recently the necessity of the change of name has been accepted, but as textbooks usually do not concern themselves with such matters, the change might have struck some as being trivial or arbitrary.

DR. ROBINSON: Uncooked meat seems to bear the blame as a rule for trichina infection, but in one case which I observed the infection came undoubtedly from potted ham. Dr. Gilman Thompson, who reported twenty-two cases from the Presbyterian Hospital, New York, attributed one case to potted ham. The discovery of the associated eosinophilia that has been mentioned was done when Brown was a fourth-year student. It seems worth while to mention this fact, especially before the students, in order to show that sometimes important clinical observations may be made during the routine fourth-year ward work, and Brown's work should serve to stimulate students to carry on their work with the spirit of the research worker.

3 DIABETES MELLITUS IN AN INFANT AND THE RESULTS OF STARVATION TREATMENT.—BY DR. PHILIP C. JEANS.

The newer therapy of diabetes is in its infancy and no case has been under its management long enough to know its ultimate outcome, but the immediate results so far as reported have been uniformly beneficial. The greatest impetus has been given to these newer ideas by the work of Allen. The essentials of his treatment are as follows: The clearing up of the glucosuria by one initial fast, regardless of how long this may be. A subsequent diet, not governed by any theoretical standard of protein or calories, but by the amount of each food in each individual case which can be given and at the same time keep the urine clear of sugar and acetone bodies.

The patient whom I wish to report is a girl of 2 years. The family and past history are unimportant. She was seen in the dispensary, January 13 and 23, for a minor ailment and on both occasions the urine was examined and found free from sugar. In the latter part of March she developed measles. She was very ill for three weeks. Immediately following the measles the amount of urine was excessive and the mother noticed the diapers were sticky. Glucosuria was found by the family physician May 1. She was admitted to the hospital May 22. Her general condition was good, but she was irritable and had considerable malaise.

On regular ward diet she passed 48 gm. of sugar in twenty-four hours; on restricted diet she showed 14 gm. On institution of fast she became sugar free in the first twenty-four hours and the diet was gradually increased until with 22 gm. of sugar and 90 calories per kilogram she showed a slight glucosuria. She again became sugar free with fast and remained so with gradually increasing diet and no fast days until she was taking 27 gm. sugar and 84 calories per kilogram without glucosuria. For a period of two and a half months her diet was sufficiently low that she did not gain in weight. During the last two months her diet has been increased to the extent that she has gained 2 pounds. At no time has there been much of an acidosis, the largest amount of acetone bodies being 4.8 gm. reckoned as B-oxybutyric acid. Neither has she been acetone free at any time, the lowest amount being 0.36 gm. The acidosis as measured by ammonia excretion has likewise been slight, the ammonia nitrogen only once

reaching 1 gm. With the original fasting period there was a permanent reduction in the amount of urine and a disappearance of the abnormal thirst. The blood sugar in this patient has varied directly with her diet, being as low as 0.024 per cent. following a fast and as high as 0.088 per cent. on the day she showed glucosuria on 22 gm. of sugar. By the method of determination used 0.05 per cent. is taken as the normal.

DISCUSSION

DR. VEEDER: This method of starvation is probably the most important therapeutic advance that has been introduced in the past year. As Joslin said, "Allen has given us a method by which we can treat diabetes rather than nurse it." The patient is starved until the glucosuria has disappeared and then maintained on a diet of low caloric value. Previously the carbohydrate that has been taken out of the diet has been replaced in large measure by adding fat. Allen holds this is wrong and that the entire diet must be on a low level, and from the published results it would seem as if he were on the right track. The carbohydrate is kept from the diet despite the presence of a ketonuria. It has been the almost universal custom of clinical teachers to add carbohydrate to the diet when an acidosis is present and Allen's treatment in this respect is a radical change to say the least. No matter whether there is a high acidosis or not, Allen starves his patients until they are sugar free. In this case this method of treatment has given splendid and rather unexpected results, as we usually consider diabetes in an infant—especially diabetes following an infection—to be a comparatively rapidly fatal disease.

DR. SHAFFER: As Dr. Veeder has stated, it is and has been the common practice to follow almost the reverse of Allen's plan. Most clinicians undoubtedly believe that it is dangerous to withhold carbohydrate from diabetic patients when much "acetone bodies" appear. But some clinicians, especially the von Noorden school and most of the laboratory men who have worked on diabetics, do not share this fear. Most biochemists have for some years recognized that unless the subject is able to burn carbohydrate it has no antiketogenic value and that its use by diabetics merely lowers still further the carbohydrate tolerance. Allen deserves great credit for emphasizing, extending and confirming this view. I saw an interesting case some years ago in Bellevue Hospital, which taught me the lesson that carbohydrate is without value in preventing acidosis in severe diabetes. The patient excreted from 50 to 100 gm. of total oxybutyric acid daily for several months. The attending physician insisted on giving carbohydrate and for many days gave even 700 or 800 gm. of glucose, fructose and cane sugar. In spite of the flood of sugar the acidosis was wholly unaffected; the sugar had no antiketogenic action. When carbohydrate, fat and protein were all greatly reduced the acidosis fell.

It seems to me that one of the important lessons to be learned from the success which is being attained with the Allen treatment is a doubt as to the value of carbohydrate in protecting against acidosis. Allen's work appears to have brought a great advance in the treatment of diabetes.

This case of Dr. Jeans indicates that the plan may be successfully applied also to diabetes in infancy.

DR. ROBINSON: The fact that this child has apparently a mild case of diabetes mellitus is of interest, as the disease in childhood is usually very severe. Dr. Riesmann, however, recently reported a series of mild cases in children and pointed out that these cases had a hereditary history. He considered that hereditary cases may be milder than those without

any such history, and I would like to ask Dr. Jeans if there were any other cases in the family of this patient. Starvation may be necessary for from seven to eight days in order to render the patient sugar free. However, I saw one case which could not be rendered sugar free. This was in Longcope's clinic in New York in which the patient was starved for twelve days and glucosuria was still present. She was beginning to become comatose and starvation was discontinued.

DR. JEANS: There was no diabetes in the family history.

4. SOME OBSERVATIONS ON THE MECHANISM OF THE OSCILLATORY METHOD OF DETERMINING BLOOD PRESSURE.—By DR. JOSEPH ERLANGER.

This paper is the first of a series dealing with the principles underlying the criteria employed in the indirect determination of the arterial pressures.

The differences in the views held with regard to the relation to the arterial pressure of the significant features of the oscillation record could be due only to differences in the conditions under which the several sets of observations have been made. According to theory the significance of sudden changes in amplitude or of maximum oscillations should depend on (1) the compressibility of the compression space; (2) the compressibility of the "artery," and, where the compressibility of the compression space is sufficiently small; (3) the phase of the pulse cycle in which the compression chamber is closed.

For putting the theory to the test of experiment a method of studying compression oscillation described by Brooks and Luckhardt has been used. With a compression chamber of low compressibility, and elastic "artery" of large bore when undistended, and applying the compression while diastole prevails in the "artery," systolic compression (compression pressure always falling) is not marked by any distinctive change in oscillation; while diastolic compression is indicated by a sudden diminution of the oscillation from maximum; applying compression during systole, systolic pressure is indicated by a sudden increase of oscillations to maximum amplitude, diastolic by a cessation of any further reduction in amplitude; when compression is applied while mean pressure prevails, systolic pressure is indicated by a gradual increase and diastolic by a gradual decrease in the amplitude of oscillations, while maximum oscillations are recorded in the vicinity of mean compression. Replacing this "artery" of relatively large bore by one of relatively small bore modifies somewhat the results as stated above.

In a compression chamber of high compressibility the larger "artery" gives with both initial systolic and diastolic compression a record in which the systolic pressure is marked by a sudden increase in amplitude and the diastolic pressure by a sudden decrease, both on a record in which the oscillations decrease gradually in amplitude. The smaller artery (carotid of the dog) shows the same signs, but the record differs from the preceding one in that the oscillations in the systolic-diastolic range of compression increase in amplitude or at least do not decrease until the compression becomes less than diastolic pressure.

In comparable tests it is found that the compressibility of the sphygmomanometer of the author is about the same as that of the compression chamber employed in the series of observations last mentioned.

While maximum oscillations are recording, the "artery" is just flattened during diastole; it is never at this time "half flattened" as MacWilliam and Melvin maintain.

5. MULTIPLE LIPOMATOSIS.—By DR. SIDNEY I. SCHWAB.

It is proposed in this paper to describe two cases of multiple lipomatosis, using this term for the present as a matter of convenience with the idea of establishing, if possible, a new clinical type, and for the purpose likewise of dissociating this type from the general type of adiposis dolorosa.

Two cases are described both of which were observed in The Barnes Hospital.

CASE 1.—A man, aged 48 years, was under observation a period of time extending over eight years who during the period of observation showed progressive loss of muscular power, marked asthenia, periodical depression, inability to work, lack of mental vigor, attacks of pain at irregular intervals in the chest and arms, and a growing incapacity to pursue his trade, that of switchman. For the last two years or more great numbers of small tumors appeared in various parts of his body; they are subcutaneous, movable, and not painful. The deep reflexes were diminished, but no other organic findings in the nervous system were discovered.

Case 2 presented the identical clinical picture. A man aged 44 years.

In both these cases there was a progressive loss of sexual power, and negative findings with the Roentgen ray in pituitary, thymus and thyroid. In both, marked evidence of an early arterial sclerosis with negative Wassermann findings.

In a review of the literature a description of similar cases could not be found, and they are therefore to be regarded, temporarily at least, as a new variety of lipomatosis.

The chief characteristics of this type are as follows: Progressive character, middle-aged individuals, early arterial sclerosis, progressive asthenia, great numbers of small and pure lipomata scattered all over the body, unsegmental in distribution, no tendency to general obesity, progressive mental dulness, general depression, periods of forced inactivity, attacks of abdominal and cardiac pain, progressive loss of sexual power, in the presence of negative Wassermann and negative findings of an organic nature in the central nervous system, and negative Roentgen-ray findings of pituitary, thymus and thyroid, and all absence of symptoms of perversity of polyglandular activity.

These two cases are submitted tentatively toward the establishing of a new clinical type.

DISCUSSION

DR. DOCK: If it were not for such close and discriminating work as Dr. Schwab has done, we would still be classing all anomalies of fat in one group. It is only within a few years that we have learned the existence of a number of very important varieties and whether Dr. Schwab's new disease remains permanently established or not is of relatively minor importance.

THE BARNARD FREE SKIN AND CANCER HOSPITAL CLINICAL AND LABORATORY REPORTS

6. DERMATITIS HERPETIFORMIS. REPORT OF SOME CASES TREATED WITH EMETIN.*

—By DR. R. DAVIS AND DR. M. F. ENGMAN.

In consideration of the fact that dermatitis herpetiformis is the indication, in certain skins, of a general toxemia, it occurred to us to study the relation of this eruption to infections in the mouth, especially pyorrhea alveolaris. Each case is a study

in itself for the source of the toxemia. Tobacco sometimes is the cause of trouble. A proteid, or a carbohydrate diet, or the presence of salt in the food is to blame occasionally. In cases of pyorrhea, when the endameba was found, emetin hydrochlorid was used hypodermically according to the usual procedure. A competent dentist also carried out local treatment. The cases quoted are interesting both from the results obtained from the emetin treatment and from the fact that other dietetic and drug treatments were carried out in several of them without effect.

In Case 1 the onset was sudden, with chill, nausea and fever. The eruption was very pruritic; the patient extremely nervous and greatly prostrated. Pyorrhea was severe. The endameba was found. Physical examination was negative except for a mass in the region of the gallbladder. The blood and urine were negative, indican not being increased. Nonproteid diet, local antipruritic and internal thyroid therapy failed. Emetin injections cured both the pyorrhea and dermatitis herpetiformis in one week. This treatment was begun at the commencement of the fourteenth week.

Case 2 showed a rapid recovery under emetin treatment after nonproteid diet and arsenic internally had failed. The physical examination was negative. This case was of two years' duration. Three weeks after discharge he had a slight recurrence.

Case 3, ten years' intermittent duration, was cured in a week. There was no pyorrhea but emetin was given experimentally. Such a result, however, would probably not usually occur in cases where pyorrhea was not present.

Case 4, a very severe general case, four years' intermittent duration, was cured in two and a half months, after several courses of emetin. Sodium cacodylate and vegetable diet cured the first attack but failed in the last which continued eighteen months. The emetin was used the last two and a half months.

7. FATAL HEMORRHAGE FROM THE FEMORAL ARTERY FOLLOWING METASTASES IN RIGHT FEMORAL REGION RESULTING FROM CARCINOMA OF VULVA.—By DR. KATE SPAIN.

L. K., aged 60, suffered from intense itching of vulva and burning sensation during urination for many years. About two years ago consulted physician for relief of these symptoms and was referred by him to a surgeon who immediately diagnosed the condition "skin-cancer" and removed the irritated area by excision. September, 1910, slight relief was obtained for a few months when in the spring of 1914 she noticed a small ulcer at the fourchette. She was then advised by her physician to enter this hospital.

When she presented herself the latter part of July, 1914, the external genitals showed linear scars in both sides of labia minora from former operation. At the fourchette there was a nodule about the size of the thumb nail with a grayish base elevated above the skin, somewhat tender to pressure. Urethra was normal, vagina admitting only tip of little finger. Inguinal glands on both sides were enlarged, the left glands being much larger than those on the right but still readily movable on both sides. A complete dissection of inguinal glands on both sides with a vulvectomy was done. Patient made an excellent convalescence, and was discharged from the hospital in about four weeks apparently cured. She was requested to return to the Roentgen-ray department for treatment at stated intervals. Diagnosis of microscopic section of specimen was squamous cell epithelioma. In February, 1915, there were no masses in the inguinal regions and only a slight inflammatory

* Abstract of paper published in the Jour. A. M. A., Feb. 12, 1916.

area around urethra. Patient stated she was more comfortable than she had been for years.

Because of leaving the city she was not seen until the latter part of August, 1915. An adherent tumor mass about the size of an ordinary hickory nut was observed in the right inguinal region. At the right side of vaginal introitus there was a whitish plaque and another just below the mons veneris at the juncture of labia majora. She again entered the hospital for operation. The mass in the right inguinal region was found to be directly over the femoral vessels. The entire mass was removed. The defect left was covered by bringing over a flap of fascia. In three weeks the patient again left the hospital. At this time the entire wound had healed with the exception of a small sinus at the lower angle of the wound.

During November, 1915, there was a recurrence of the tumor in right femoral region and the sinus was discharging freely. Patient reentered hospital, Jan. 22, 1916, the tumor mass presenting about the same appearance as at the last examination, sinus discharging foul smelling, purulent discharge. Five days after admission, without any warning symptoms, patient had a sudden hemorrhage from the femoral artery, death occurring instantly. Examination of the femoral vessels showed an infiltration of the artery and vein with tumor tissue, a rupture of arterial wall having occurred at a point 2 inches below Poupart's ligament.

BATES COUNTY MEDICAL SOCIETY

Bates County Medical Society met at its regular monthly meeting at Butler, Thursday afternoon, January 27, in the office of Dr. T. C. Boulware. Stormy weather, bad roads, etc., prevented many from attending. Though the attendance was very small, it did not lessen the interest in the meeting or weaken the program in the slightest degree. The program was carried out to the fullest and minutest detail and was enjoyed by every one present.

Those faithfully present were Drs. T. C. Boulware, T. F. Lockwood, E. N. Chastain, H. W. Tuttle, C. J. Allen and J. S. Newlon. The meeting was called to order by the president, Dr. C. J. Allen.

The minutes of the previous meeting were read by the secretary, Dr. J. S. Newlon. With no objections the minutes were approved.

Dr. C. J. Allen read a most interesting paper on "Surgical Dressings." To say the least he covered the subject well. If every member would willingly contribute such a paper once a year our meetings would be most interesting indeed. Discussion by Drs. T. C. Boulware, T. F. Lockwood, E. N. Chastain and J. S. Newlon. Dr. W. H. Tuttle expressed a desire to discuss this interesting paper, but on account of urgent business was unable to do so.

Dr. William H. Allen, Rich Hill, and Dr. James S. Rushton, Hume, were elected to membership.

The program for our February meeting will consist of a paper by Dr. T. F. Lockwood. His subject will be "The Treatment of Hemorrhoids by the General Practitioner."

No other business appearing the society adjourned to meet February 24.

J. S. NEWLON, M.D., Secretary.

BUCHANAN COUNTY MEDICAL SOCIETY

The regular meeting of the Buchanan County Medical Society was held at their rooms Wednesday evening, January 19, Dr. Charles Geiger in the chair. There were thirty-nine members present. The minutes of the previous meeting were read and approved.

This being a scientific session, no committee reports or business of any character was attended to.

Dr. Floyd H. Spencer read a very interesting paper on "Tumors of the Colon" and reported one case. Discussed by Drs. McGill and Conrad.

Dr. O. C. Gebhart read an excellent paper on "Tuberculosis," which was discussed by Drs. Greenburg, O. A. Schmid, Willman, Farber, Beard, A. L. Gray, McGlothlan and J. T. Stamey.

A motion having been made and seconded to adjourn, the chairman called for a rising vote which resulted in 21 aye, 18 no, and the meeting adjourned.

Meeting of February 2

The regular meeting of the Buchanan County Medical Society was held at their rooms at St. Joseph, Wednesday evening, Feb. 2, 1916, Dr. Charles Geiger in the chair. There were twenty-nine members present. The minutes of the previous meeting were read and approved.

The president was authorized to take out one full membership in the Commerce Club, annual dues \$25.

At the suggestion of Dr. C. R. Woodson, the secretary was instructed to write a letter to Senators W. J. Stone and James A. Reed requesting them to use all the influence in their power to secure the passage of the urgent deficiency bill introduced by the secretary of the treasury, Mr. McAdoo, the object of the bill having been outlined in the letter received by Dr. Woodson from the secretary of the State Association.

On motion of Dr. Owens, seconded by Dr. Beck, the president was instructed to appoint a committee of two to confer with the Good Roads Committee for the purpose of keeping up and improving the roads in this territory. The chair appointed Drs. Owens and Beck.

The Banquet Committee, through Dr. Kenney, reported all bills paid and a balance of \$1.50 on hand. The report was ordered filed, the balance of \$1.50 to be paid into the treasury of the society and the committee discharged.

The Committee on Permanent Headquarters was discharged and the chair appointed the following new committee: Drs. Kenney, Bansbach and McGill.

The committee appointed to outline the duties of the Laboratory Committee made their report as follows: "It shall be the duty of this committee under the direction of the society to provide the development of medical laboratories in St. Joseph.

"DANIEL MORTON.

"A. E. HOLLEY."

This report was not satisfactory to the chairman of the Laboratory Committee and the report was referred back to the committee.

The following Hospital Committee was appointed: Drs. P. I. Leonard, O. G. Gleaves and Leroi Beck; in addition to these the following laymen were added to the committee: Rev. George S. Murphy, Rabbi Louis Bernstein, Judge W. K. James and Mr. W. W. Head.

The Public Health and Legislation Committee was instructed to confer with the Board of Health regarding the control of promiscuous hospitals and report at the next meeting.

Meeting of February 16

The regular meeting of the Buchanan County Medical Society was held in their rooms at St. Joseph, Wednesday evening, February 16, Dr. Charles Geiger in the chair, with thirty-four members present. The minutes of the previous meeting were read and approved.

The chair appointed Dr. Jacob Geiger, Dr. C. R. Woodson, St. Joseph and Dr. W. Martin, Savannah, a committee to draw up resolutions on the death of Dr. Stephen F. Carpenter.

On motion the president was instructed to appoint a committee of fifty to cooperate with the St. Joseph Federation of Women's Clubs in conducting the "Baby Week" campaign on March 16, 17 and 18, and the secretary was instructed to advise their chairman to that effect.

The privilege of the floor was extended to Dr. J. M. Davis, Craig, Mo., and Dr. Funks, Culverson, Neb.

Dr. Caryl Potter exhibited a clinical case of "Ascending Aortic Aneurysm of the Ascending Arch."

An exceedingly interesting paper by Dr. Jacob Geiger entitled "Encephalocele," was discussed by Dr. Daniel Morton and Dr. C. R. Woodson. This was followed by an instructive paper by Dr. J. M. Dunsmore, "Friedreich's Disease and Report of a Case," which was discussed by Dr. C. R. Woodson.

The following names were added to the Hospital Committee appointed at the meeting of February 2, with Dr. P. I. Leonard, chairman; Mr. W. Bodenhansen, merchants; Mr. Joshua Motter, wholesalers; Mr. J. O. Barkley, packers; Dr. F. P. Cronkite, dentists; Mrs. R. A. Brown, society; Mrs. W. B. Norris, women's clubs; Mrs. A. A. Meyer, federation; Mrs. L. A. Haberda, lady clerks; Mr. W. H. Gordon, men clerks; Mr. Ed. Schroers, druggists; Mr. H. Vogelnan, bakers; Mr. Clint Morrow, grocers, and Dr. H. W. Westover, homeopath.

W. F. GOETZE, M.D., Secretary.

CASS COUNTY MEDICAL SOCIETY

The Cass County Medical Society met in Harrisonville, February 10, with the following members present: Drs. Adair, Chaffin, Crawford, Elder, Overholser and Triplett. Mr. Charles S. Nelson, state representative from Cass County, was a guest of the society and took part in the program, as follows:

"Cardiac Arrhythmia; Pathology and Diagnosis of Different Forms; Prognostic Significance and Therapeutic Indications," by Dr. M. P. Overholser. This was a masterful paper and was followed by a very interesting discussion.

"Fakes and Efficiency in the Medical Profession" was the subject of an excellent address by Mr. Charles S. Nelson. Mr. Nelson paid a high tribute to the medical profession and is an ardent supporter of all legislative measures for the benefit of the public health. The members of Cass County Medical Society feel that they can cheerfully support him for another term as their representative.

Dr. John W. Langley, Peculiar, who was formerly a member of Newton County Medical Society, was recommended for membership by the board of censors and unanimously elected to membership.

Drs. D. R. and E. M. Griffith, Creighton, were suspended from membership for nonpayment of dues.

The society signified its willingness to assist the women's clubs of the county in observing "Baby Week," March 4 to 11, by furnishing speakers or assisting in any way they may desire.

H. S. CRAWFORD, M.D., Secretary.

CLAY COUNTY MEDICAL SOCIETY

At the annual election of officers our society voted the following into office for 1916: Dr. F. H. Matthews, Liberty, president; Dr. H. Rowell, Kearney, vice president; Dr. J. J. Gaines, Excelsior Springs, reelected secretary; Dr. W. S. Wallace, Excelsior Springs, delegate to state meeting; Dr. R. E. Sevier, Liberty, alternate.

Little else was done at the meeting except to consider in advance the election of a board of censors and the revision of the by-laws creating the board. Laid over for thirty days.

The meeting at Excelsior Springs was an interesting one the last Monday evening in January. Dr. E. L. Parker, Excelsior Springs, was elected to membership on transfer from Jackson County.

"The delinquent member" was a topic of discussion. There is a time limit to delinquency now, and the "tardys" will have to look out. Delinquency costs the society embarrassment and money. The laggard is getting to be a scarcity in American business.

A board of censors was chosen at this meeting, composed of Drs. J. T. Rice, J. H. Rothwell and R. E. Sevier. They are getting busy already.

One of the things discussed very effectively was the problem of treating cases in conjunction with the osteopath. This the society voted unethical. The ruling does not apply to reputable masseurs, but you are not to aid, abet or tolerate the "still-house" if you do not want the censors to spot you.

A message of sympathy was ordered sent to Dr. and Mrs. T. N. Bogart, now in Albuquerque, N. M., for the health of their only daughter.

Dr. William J. Frick, Kansas City, read an excellent paper on "The Modern Treatment of Skin Blemishes." Just the common every-day bumps that we run across and call "ec-zee-ma." He told us how to remove milady's whiskers. The doctor is an enthusiast in his specialty, and many were the resolves to send him the next sufferer from a variety of lesions that drive the general practitioner bug-house. I would rather tell you about Dr. Frick's cordial handshake and his genial presence than to give away any of the tricks he has up his sleeve. So more anon. The Clay County Medical Society is on the map, with excellent programs and enthusiastic members and officers.

J. J. GAINES, M.D., Secretary.

COLE COUNTY MEDICAL SOCIETY

The Cole County Medical Society held their regular meeting at Jefferson City, Feb. 10, 1916.

Resolutions were passed endorsing the nation-wide "Baby Week" campaign and signifying our willingness to cooperate with the women's clubs of this county in the celebration. On request of Mrs. J. A. B. Adcock, chairman of the Housewives' League, for a speaker, Dr. W. A. Clark was selected by the society.

F. W. GILLHAM, M.D., Secretary.

DUNKLIN COUNTY MEDICAL SOCIETY

The Dunklin County Medical Society met at Kennett, February 1, with the following members present: Drs. Baldwin, Chatham, Tipton, Drace, Egbert, Rigdon and Harrison. Because of the bad weather and roads there were no members from out of town except the president, Dr. Tipton. The minutes of the last meeting were read and approved.

A case was presented by Dr. Rigdon and discussed by the members. Dr. Tipton told of a peculiar gunshot wound, which was very interesting.

Dr. Baldwin read a well-written paper on "Influenza." This was discussed by Dr. Drace and others.

The next paper was to have been on "Anterior Poliomyelitis," by Dr. J. D. Hess, but he was unable to be present and was excused for the time being.

The application and transfer card of Dr. J. T. Redwine was acted on and he was elected to membership in our society.

It was discussed and decided by the members to make up the programs several months in advance in order that more time might be given the papers.

By motion and vote the secretary was given authority to purchase any necessary stationery and form postcards.

No further business the meeting adjourned.

E. F. HARRISON, M.D., Secretary.

GREENE COUNTY MEDICAL SOCIETY

The regular meeting of the Greene County Medical Society was held at Springfield in the rooms of the Physicians' Club, January 28, with forty-two members present. Dr. C. W. Russell, vice president, occupied the chair and called the meeting to order. The minutes of the last meeting were read and approved. On motion duly seconded, Dr. Russell was elected president to fill the vacancy caused by the death of Dr. W. S. Hopkins who was elected president at the annual meeting in December. Ballots were cast for the election of a vice president, and Dr. S. A. Johnson was elected to fill this office.

Dr. Love reported that the members of the society had made a voluntary contribution for a floral offering to Dr. Hopkins and that a small balance remained on hand, which he desired the society to dispose of. It was moved that the amount be contributed to the treasury of the Greene County Medical Society, which was seconded and adopted.

The society had as its guests the President of the State Association, Dr. C. R. Woodson, St. Joseph, and the Secretary of the Association, Dr. E. J. Goodwin. Dr. Goodwin was called on for a short talk, to which he responded. He informed the members of the status of the Association throughout the state and stated that there was a greater spirit of loyalty and support of the Association than had been manifest in any previous year. He complimented Greene County Medical Society very highly because of the activity of the society, not only in controlling the conduct of its own members, but in the numerous ways in which the society directed the public mind aright on questions of public health. Dr. Russell introduced the President, Dr. Woodson, who expressed his appreciation of the reception tendered him and his gratification on the condition of the Association and of Greene County Medical Society as depicted by the secretary. He then gave a most interesting and instructive address on "The Early Recognition of Symptoms of Insanity."

On motion, a vote of thanks was tendered Dr. Woodson and Dr. Goodwin, and Dr. Woodson was elected an honorary member of the society. Our State Secretary, Dr. Goodwin, was elected an honorary member some years ago.

At the close of the meeting an informal reception was tendered our guests.

Meeting of February 11

The regular meeting of Greene County Medical Society was held on February 11 with thirty-two members present.

Dr. A. L. Anderson read a paper on grip, which brought out a lively discussion.

T. O. KLINGNER, M.D., Secretary.

HENRY COUNTY MEDICAL SOCIETY

Henry County Medical Society met in regular session in the courthouse at Clinton Wednesday, February 9. The meeting was called to order at 2 p. m. by the president, Dr. C. W. Head. Other members present were Drs. J. M. Miller, W. Cline, T. A. Finley, G. W. Berry, E. C. Peelor, R. D. Haire, A. J. McNees, N. I. Stebbins and F. M. Douglass. The minutes of the previous meeting were read and approved.

Dr. R. D. Haire gave a talk on pneumonia that was not only instructive but very entertaining. He claimed that there was more trouble from catarrhal pneumonia than from other forms and the sequelae harder to control especially heart action, often continuing six weeks or two months after the first symptoms. Fresh air and good liquid supportive diet was strongly advocated. He used the serums, but

was not sure which was best. The talk was liberally discussed by all present.

Resolutions favoring an increase in the Medical Corps of the Army were passed.

The Baby Week, March 4 to 11, was discussed and action was taken to assist in the work.

F. M. DOUGLASS, M.D., Secretary.

HOWELL COUNTY MEDICAL SOCIETY

The Howell County Medical Society met at West Plains, February 10, at 2 p. m., and in the absence of the essayists the society discussed a few clinical cases presented and then proceeded to the election of officers for the year 1916 as follows: Dr. W. S. Culpepper, Willow Springs, president; Dr. W. E. Bess, West Plains, vice president; Dr. R. E. Hogan, West Plains, secretary-treasurer; Dr. H. C. Shuttee, West Plains, delegate; Dr. A. H. Thornburgh, West Plains, censor.

Dr. R. E. Hogan, a former member of the St. Louis Medical Society, has placed his membership with Howell County Medical Society. Dr. Charles F. Greene, Bakersfield, was elected to membership.

After a short discussion on matters of business pertaining to the society, we adjourned to meet the second Thursday in April, 1916.

A. H. THORNBURGH, M.D., Secretary.

EYE, EAR, NOSE AND THROAT SECTION OF JACKSON COUNTY MEDICAL SOCIETY

The eye, ear, nose and throat section of the Jackson County Medical Society gave a smoker at the University Club, January 13 from 6 to 10 p. m. Fifty physicians were in attendance. St. Joseph, Mo., and Topeka, Leavenworth and Atchison, Kan., were represented. There was some discussion of changing the rules in order that physicians outside of Jackson County could become members.

Dr. W. M. Reed read a paper on "Paraculis," and reported cases.

Dr. Hal Foster read a paper on "Five Cases of Tumor of the Trachea."

Dr. J. W. Sherer reported a case of conjunctivitis and keratitis from poison ivy.

Dr. R. J. Curdy read a paper on "Ocular Injuries by Anilin Pencils."

Dr. F. B. Tiffany read a paper on "Ophthalmology in the Orient."

Dr. Lorie was elected a member.

This was the largest meeting in the history of the society.

E. H. RUSSELL, M.D., Secretary.

JASPER COUNTY MEDICAL SOCIETY

Jasper County Medical Society met January 11, at the Carnegie Library with the following members present: Drs. Morgan, Bobbitt, Combs, Cummins, Neff, Lowdermilk, Shelton, Chenoweth, Korn, Lanyon, Mack and Welcome.

Dr. Cummins reported a case of rheumatism with joints distended with fluid. The fluid showed no colonies on culture, but was filtered through a Berkefeld filter and the filtrate injected with an apparent complete cure.

Dr. Lanyon reported a case of numerous abscesses about the head and neck in a baby 2 years old which had been raised on condensed milk; no glandular involvement; abscesses cleared up after opening, except one which is still discharging; no cause ascertained.

Dr. Bobbitt remarked on the frequency of ear troubles giving a history of rheumatism.

Dr. L. Chenoweth reported a case of apparent chronic interstitial nephritis with blood pressure of 150 to 160 over two weeks' observation and a drop to 120 in four hours, where it has remained. The urine showed a few casts, no albumin, with specific gravity 1.006.

Dr. Welcome reported a case of laryngeal diphtheria in a boy 8 years of age necessitating intubation; 15,000 units of antitoxin were used. The tube was removed in two days and recovery was uneventful and complete.

Dr. Korn reported the blood findings in a case of lymphatic leukemia six weeks after variola.

An exceedingly interesting paper was read by Dr. Korn of the Joplin Clinical Laboratory, on the Wassermann reaction, its scope and fallacies, which was discussed by all the members present.

Meeting of January 25

The Jasper County Medical Society met at the Carnegie Library, January 25, Dr. Morgan presiding.

Dr. Lowdermilk, Galena, Kan., gave a short discussion on the action of inorganic salts on the human body, relating experiments on animals as to the action of various salts. The remarks were brought out in relation to a case report of Dr. Neff some time ago, where a dose of magnesium citrate caused unconsciousness in a woman for several hours. According to the experiments, it was thought that a dose of calcium salts would have counteracted the magnesium and perhaps have cleared up the condition almost at once.

Dr. Neff reported a case of osteomyelitis, seen in consultation, involving both ends of each tibia and the lower end of one humerus; curettement of the bones gave good results. Pus from an abscessed tooth showed staphylococcus.

Dr. Lanyon reported a case of two years' standing, similar to the above, treated with stock vaccines, one point still discharging; surgical treatment was refused. The doctor intends using autogenous vaccine.

Dr. Neff reported further on a case of removal of the tibia from a child a year ago in which the bone was regenerated and recovery complete.

Dr. Shelton read an interesting paper on sympathetic ophthalmia, giving case records. The paper was extensively discussed by all members present and more especially by the ophthalmologists, Drs. Pifer, Bobbit and Shelton, the latter closing the discussion.

Dr. Moody's transfer card from the St. Louis Medical Society was read and on motion he was elected a member.

On motion of Dr. Welcome, seconded by Dr. Pifer, it was decided that all papers read before the society were to be filed with the secretary.

A motion was made by Dr. Pifer and seconded by Dr. Chenoweth, instructing the secretary to write the Home Telephone Company requesting them to include only holders of an M.D. degree under the heading of physicians and surgeons in the classified directory. The motion carried.

The following members were present: Drs. Morgan, Lowdermilk, Neff, Coombs, Shelton, Mary Mack, Bobbit, Chenoweth, Pifer, Lanyon and Welcome.

E. H. WELCOME, M.D., Secretary.

MISSISSIPPI COUNTY MEDICAL SOCIETY

The Mississippi County Medical Society met in regular session at Charleston, Jan. 10, 1916, in the office of the president, Dr. A. W. Chapman. The following members were present: Drs. A. W. Chapman,

H. L. Reid, J. W. Lynch, F. S. Vernon, J. C. Boone, W. P. Howle, A. H. Marshall and M. H. Shelby. The minutes of the last meeting were read and approved.

Dr. H. L. Reid reported several interesting obstetrical cases, namely, unengaged breech, face presentation, prolapsed fundi. Interesting discussions by the several members present followed.

Different questions regarding the Harrison Act in relation to the practitioner were discussed.

On motion the society adjourned to meet February 7.

MITCHELL H. SHELBY, M.D., Secretary.

PEMISCOT COUNTY MEDICAL SOCIETY

The Pemiscot County Medical Society held its regular meeting at the city hall in Hayti, January 14. Dr. Troutmann, president, being absent, Dr. Hudgings was chosen chairman pro tem. The minutes of the previous meeting were read and approved.

The annual election of officers was called for and the ballots were cast with the following result: Dr. F. A. Mayes was elected president for the year 1916; Dr. J. W. Robbins was elected vice president; Dr. J. W. Johnson, secretary; Dr. G. W. Phipps, treasurer; Dr. J. W. Johnson, delegate; Dr. W. A. Swearingen, censor, to act with Drs. Hudgings and Luten holding over from last year.

Dr. Mayes was voted the thanks of the members for the feast prepared for our entertainment.

Dr. Lawrence E. Cooper, Cooter, was elected to membership.

The next meeting will be held at Hayti the first Tuesday in April.

Dr. George W. Phipps made an address of appreciation of the dinner served to the society by the Hayti members. Dr. J. H. Timberman, the councilor for this district, talked very earnestly on the benefits and privileges of membership in the organized medical profession and urged the members to hold regular meetings. Dr. Mayes expressed his appreciation of the honor conferred on him and made an earnest plea for the cooperation and assistance of the members to make the year profitable and beneficial to all.

J. W. JOHNSON, M.D., Secretary.

REYNOLDS COUNTY MEDICAL SOCIETY

The Reynolds County Medical Society met in regular session in the office of Dr. L. B. Ralls at Centerville, Jan. 21, 1916. The meeting was called to order by the president, Dr. A. F. Bugg. The minutes of the previous meeting were read and approved.

Owing to the inclemency of the weather the clinical cases were not present.

A very interesting and educational paper was read by Dr. Thomas W. Chilton, Ellington. The paper was discussed by the entire society and many important points were brought out.

A petition to the War Department of the United States to increase the number of medical officers in the Army was tabled.

A committee composed of Drs. Chilton, Fitzpatrick and Ralls was appointed to draft resolutions on the death of Dr. James Henderson Moffitt, Redford, Mo.

Dr. T. C. Piles, Ellington, presented his application for membership, recommended by Drs. Chilton and Minor, and was elected.

Owing to high waters and an epidemic of grip the society was unable to meet in December, therefore the election of officers was in order and the following

officers were elected: Dr. Thomas W. Chilton, Ellington, president; Dr. Charles M. Fitzpatrick, Lesterville, vice president; Dr. Loren B. Ralls, Centerville, secretary.

Dr. Chilton moved, seconded by Dr. Fitzpatrick, to adjourn. Carried.

L. B. RALLS, M.D., Secretary.

SCOTT COUNTY MEDICAL SOCIETY

Scott County Medical Society met at Oran, Monday, February 7, and elected the following officers for 1916: Dr. W. S. Hutton, Fornfelt, president; Dr. J. A. Cline, Oran, secretary-treasurer; Dr. W. H. Wescoat, Oran, delegate; Dr. P. S. Tate, Morley, alternate.

Next meeting will be held at Oran, April 3, at 1 p. m.

G. S. CANNON, Secretary.

ST. LOUIS COUNTY MEDICAL SOCIETY

The St. Louis County Medical Society met at Clayton, December 12, and enjoyed their annual banquet which was held at the Autenrieth Hotel with twenty-two members in attendance.

The following officers were elected for 1916: Dr. P. M. Brossard, president; Dr. Marshall Baker, vice president; Dr. Garnett Jones, secretary-editor; Dr. C. L. Armstrong, member board of censors; Dr. Horine Miles, delegate.

One application for membership was received.

Meeting of February 9

The February meeting was held at Webster Groves.

Dr. G. C. Robinson, St. Louis, read a very interesting paper on "Diseases of Heart with Irregularities."

GARNETT JONES, M.D., Secretary.

WRIGHT COUNTY MEDICAL SOCIETY

The regular meeting of the Wright County Medical Society was called to order by Dr. Ryan, the president, Feb. 3, 1916, at 1 p. m., in the office of Dr. Rogers at Mansfield.

The members present were Drs. Rogers and Fuson of Mansfield, Drs. Ryan, Vanoy and Little of Norwood, and Dr. Ames of Mountain Grove.

The secretary being absent, Dr. Ames was appointed secretary pro tem. The minutes of the last meeting were read and approved.

None of the three essayists on the program were present, but the members proceeded to discuss the subjects of two of them, namely, influenza and pneumonia in children, after which a number of cases were discussed by various members, especially a case of pustular eczema by Drs. Ryan and Vanoy which elicited considerable interest. Drs. Rogers and Ames recommended the trial of bacterins in this case.

A resolution was adopted asking our representatives and senator in congress to support the proposition being presented for the reorganization of the Medical Department of the U. S. Army so as to increase the number of medical officers to such number as the surgeon-general may deem necessary.

All present agreed that we had a profitable meeting, notwithstanding the few members present and the absence of the essayists. The question of a picnic in connection with our next meeting was discussed and rejected, but it was suggested that a picnic apart from the regular meeting be held later, arrangements to be made therefor at the next meeting which will be at Hartville in May.

A. C. AMES, M.D., Secretary pro tem.

THE TRUTH ABOUT MEDICINES

NEW AND NONOFFICIAL REMEDIES

Since publication of New and Nonofficial Remedies, 1915, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

LYSTERS' PREPARED CASEIN DIABETIC FLOUR.—Milk casein to which has been added a leavening mixture, sodium chlorid and saccharine. Used in the form of muffins in diabetes, etc. Lyster Brothers, Andover, Mass. (*Jour. A. M. A.*, Feb. 26, 1916, p. 653).

ANTISTREPTOCOCCUS SERUM RHEUMATICUS, SQUIBB.—Produced from strains of streptococcus from the joints and blood of cases of rheumatism. The serum is intended for use in cases of acute articular rheumatism. E. R. Squibb & Sons, New York (*Jour. A. M. A.*, Feb. 26, 1916, p. 653).

PROPAGANDA FOR REFORM

HYPOCHLORITES IN INFECTED WOUNDS.—Dakin points out that he claims no credit for the "discovery" of the "new antiseptic." He explains that the "new antiseptic" was discovered by Berthollet in 1788. The solution used by Dakin and others is essentially the well-known Labarraque's solution or solution of chlorinated soda. The claims as to the efficiency of the various modifications which are being used in France and England are decidedly contradictory. The one conclusion which all results with the various hypochlorite solutions appear to justify is that hypochlorites, whether applied in an acid solution, in an alkaline solution or in a neutral solution, are of genuine value in the treatment of infected wounds (*Jour. A. M. A.*, Feb. 5, 1916, p. 430).

OXYBON DECLARED FRAUDULENT.—On January 15, 1916, a fraud order was issued by the postmaster-general against the Oxybon Company, Chicago. The Oxybon was one of the gas-pipe frauds, which included the Oxydonor, the Oxyphathor and the Oxygenor (*Jour. A. M. A.*, Feb. 12, 1916, p. 526).

THE THERAPEUTIC VALUE OF THE HYPOPHOSPHITES.—At the request of the Council on Pharmacy and Chemistry, Dr. W. M. Marriott, Johns Hopkins University, has examined the evidence for and against the therapeutic value of the hypophosphites. Experiments were carried out to determine the "food" value of hypophosphites. The hypophosphites were introduced into medicine by Churchill in 1858 on the basis of an incorrect theory and utterly insufficient and inconclusive clinical evidence; their use has been continued without justification by any trustworthy evidence for their efficiency. By actual trial on human subjects Marriott shows that at least 85 per cent. of the ingested hypophosphites are excreted unchanged. Further he holds that there is no proof that the remaining 15 per cent. is available to the organism. It is doubtful if there are any conditions in which the body suffers from lack of phosphorus. Marriott concludes that there is no reliable evidence that hypophosphites exert a physiologic effect; it has not been demonstrated that they influence any pathologic process; they are not "foods." If they are of any use, that use has never been discovered (*Jour. A. M. A.*, Feb. 12, 1916, p. 486).

THE EFFECT OF OPIUM ALKALOIDS ON RESPIRATION.—D. I. Macht has reinvestigated the effect of opium alkaloids on respiration. He divides the alkaloids of opium in two classes: In the one class is morphine, the prominent sedative alkaloid, which may not interfere with efficient respiration when the dose of the drug is small. In contrast with this are narcotin, papaverin, narcein, thebain and cryptopin, narcotin, papaverin, narcein, thebain and cryptopin,

all of which are stimulants and in large doses are excitants of the respiratory center. Codein belongs to the morphin class, though in large doses it may also excite the respiratory center. The action of mixtures of opium alkaloids is a summation of their individual effects. It thus appears that if the object sought is a reduction of the labored activity of the respiratory muscles in a given case, the drug opium itself or mixtures of its alkaloids are to be preferred to morphine alone. If, on the other hand, it is desired to diminish the excitability of the cough reflex mechanism, it seems that a simple substance, as morphine or codein, is to be preferred (*Jour. A. M. A.*, Feb. 12, 1916, p. 514).

FERMENTED MILK.—While there is no conclusive evidence that *Bacillus bulgaricus* is able to establish itself in the intestine in such a way that other bacteria are driven out, it is undoubtedly true that in many cases marked improvement has resulted from the ingestion of milk cultures made from it. It is by no means certain, however, that the results which have been obtained by the use of milk cultures have been attributable to any peculiar virtue in the organism itself. The beneficial effects of a sour-milk diet is attributable, perhaps, not so much to the bacteria contained in the milk as to the milk itself, which provides material for an acid fermentation in the intestine. Fermented milk is so well tolerated in many cases that their use should in general be encouraged from the standpoint of nutrient values, quite apart from the problematical "auto-intoxication" propaganda (*Jour. A. M. A.*, Feb. 19, 1916, p. 574).

DIARSENOL.—Diarsenol (Synthetic Drug Company, Toronto, Canada) is said to be chemically identical with salvarsan. It has not been examined in the A. M. A. Chemical Laboratory nor do any reports of trials appear to have been published which demonstrate its value or safety. As salvarsan is covered by United States patent the American agents for salvarsan will probably object to the sale in the United States of a substitute (*Jour. A. M. A.*, Feb. 19, 1916, p. 590).

GENOFORM.—Genoform, advertised as a remedy for rheumatism, gout, neuralgia, etc., is marketed with the claim that it is split up in the intestines into salicylic acid, acetic acid and formaldehyd. The statement of composition is too indefinite to permit any real insight into its possible reactions, but even if formaldehyd is liberated in the intestines Genoform could not have the properties which are claimed for it (*Jour. A. M. A.*, Feb. 26, 1916, p. 676).

TANLAC.—Food Commissioner Helme of Michigan reports: "A new panacea for the cure of 'all ailments of the stomach, kidneys and liver, catarrhal affections of the mucous membranes, rheumatism, nervous disorders and the like' is offered to the public under the name of Tanlac. The label on the bottle neatly avoids the pure drugs act by claiming to be only a 'tonic and system purifier.' An analysis of Tanlac in the laboratory of this Department shows the following: Alcohol 16.4 per cent., Glycerin 2.0 per cent., Licorice present, Aloes or Cascara present, Gentian present, Alkaloids (Berberin) trace. The presence of a trace of tartaric acid shows that wine is the base of this medicine. The 16 per cent. alcohol gives it the 'kick' that makes a fellow feel good and ought to fill a long felt want in 'Dry Counties.' Aloes is a laxative. Gentian is a bitter drug, a so-called tonic. If the reader wants to be cured by the Tanlac route at one-fourth the expense, let him get a quart bottle of good sherry wine. Then go to the local druggist and get 1¼ drams of glycerin and 2 drams each of aloes, gentian, licorice and cascara. Mix (if you wish) and you will have Tanlac so near that neither you nor the manufacturer can tell the difference. This formula will give four times the quantity found in an ordinary \$1 bottle of Tanlac" —*Jour. A. M. A.*, Feb. 26, 1916, p. 676.

BOOK REVIEWS

THE CLINICS OF JOHN B. MURPHY, M.D. Volume IV, No. 6 (December, 1915). W. B. Saunders Company, Philadelphia and London.

In the 220 pages of this number there are twenty-eight case reports on a large variety of conditions, many with illustrations. The number completes the volume, which is adequately indexed.

THE PHYSICIAN HIMSELF AND THINGS THAT CONCERN HIS REPUTATION AND SUCCESS. By D. W. Cathell, M.D. The twelfth and final edition enriched and strengthened by the author and his son, William T. Cathell, A.M., M.D., Baltimore. F. A. Davis Company, Philadelphia, Publishers, 1913.

This book is a most excellent work for every physician to have on his desk for handy use. Suggestions, aphorisms, admonitions and sound philosophy abound throughout the 400 pages. The authors have performed a real service to the practitioner in publishing this unique work.

THE TREATMENT OF FRACTURES. With notes on a few common dislocations. By Charles Locke Scudder, M.D. Eighth Edition. Revised, with 1,057 illustrations—734 pages. W. B. Saunders Company, 1915, Philadelphia and London.

This important work has been a standard textbook for quite a long period of years. In this new (eighth) edition many new illustrations have been added and several of the chapters contain considerable new material.

The operative treatment of fractures is handled in a most rational manner. "Operative treatment is not to be undertaken lightly," says the author. Again, "it must ever be kept in mind that a very definite indication for operation must be present before any individual case is submitted to the additional risk of incision and direct fixation."

The attitude of the general practitioner in regard to Roentgen-ray plates as well as toward fractures which may require skilled surgical treatment is also clearly defined. The book abounds in concise statements of equal importance.

ANNALS OF SURGERY, JANUARY, 1916. J. B. Lippincott Company, Philadelphia.

This number opens with an article on "Gas Bacillus Infection," by A. M. Fauntleroy, surgeon, U. S. Navy. Other articles are "The Significance of Foreign Bodies in the Tissues," by Walton Martin, M.D., New York; "Primary Neoplasms of the Lymphatic Glands Including Hodgkin's Disease," by William B. Coley, M.D., New York; "Concerning the Surgical Anatomy of the Thyroid with Special Reference to the Parathyroid Glands," by Eugene H. Pool, M.D., and Henry C. Falk, M.D., New York; "Nonstrangulated Diaphragmatic Hernia Due to Indirect Injury," by Donald C. Balfour, M.D., Mayo Clinic; "The Use of Free Omental Grafts in Abdominal Surgery," by Leonard Freeman, M.D., Denver; "On Ligation of Splenic Vessels as a Substitute for Splenectomy in Blood Diseases," by Abraham Troell, M.D., Stockholm; "Repair of Small Vesicovaginal Fistula," by Charles H. Mayo, M.D., Rochester; "A Method for Obtaining Uncontaminated Blood from Dogs and Other Animals," by Charles Goodman, M.D., New York.

FRACTURES AND DISLOCATIONS, DIAGNOSIS AND TREATMENT. By Miller E. Preston, A.B., M.D. With a chapter on Roentgenology by H. G. Stover, M.D. XXV, 813 pages, 860 illustrations. C. V. Mosby Company, St. Louis, 1915.

Fractures and dislocations are considered according to the region affected. Thus the old method of

discussing fractures under one heading and dislocations under another has been abandoned. The illustrations are all original and good.

It seems to the reviewer that the chapter on "Terms and Definitions," which is placed well on toward the end of the book, could have found a better location at the beginning of the volume.

The chapters on Roentgen ray, operative treatment, bone transplantation and treatment of compound fractures appear to be rather short, but closer inspection shows they contain a great amount of very practical information.

On the whole it is an excellent work on this important branch of surgery, especially when it is remembered that the authors did not have the advantage of the experience gained with previous editions.

R. E. S.

THE PRACTITIONER'S ENCYCLOPAEDIA OF MEDICAL TREATMENT. Edited by W. Langdon Brown, M.D., F.R.C.P., Assistant Physician to St. Bartholomew's Hospital and Physician to the Metropolitan Hospital, and J. Keogh Murphy, M.C., F.R.C.S., Surgeon to the Miller General Hospital for South-East London and to Paddington Green Children's Hospital, with an Introduction by Sir Thomas Clifford Allbutt, K.C.B., M.D., F.R.S., published by Joint Committee of Henry Frowde and Hodder and Stoughton, London. One volume of 874 pages. Price, \$8.

In the field of therapeutics the day of rank empiricism was followed by a short period of drug nihilism and now is coming the brighter morning of rationalism. This encyclopedia is an effort in the right direction; it will be found useful by the physician who is desirous of being abreast of the times in treatment.

The book is divided into two parts, to wit: Methods of Treatment and Agents in Treatment. The former occupies 510 pages and the latter 276. The index is comprehensive, filling 88 pages. The contributors to the work number nearly 100. The introduction, by Sir Clifford Allbutt, is an interesting readable essay on the history of therapeutics.

To present a word picture of Part I, a succinct reference to a specific topic follows: Nixon discusses the treatment of pneumonia under the following heads: 1. History, a short paragraph. 2. General, in which the value of ventilation, nursing, diet, water, etc., are discussed. 3. Symptomatic treatment, with subheads of pain, toxemia, heart, pyrexia, delirium, insomnia, and cough. 4. Complications, referring briefly to empyema, serous effusion, gangrene of the lung, abscess of the lung, otitis media, meningitis, pericarditis, endocarditis, peritonitis, arthritis, phlebitis, nephritis and neuritis. 5. Convalescence and after care. 6. Specific treatment. The contributors occasionally advise empirical remedies. For example, Nixon refers to linseed and mustard poultices and again to "six to twelve leeches" applied to the site of pain. It is refreshing, however, to come across but comparatively few of these examples. For the most part the procedures advised are rational and simple. In pneumonia is especially advised careful nursing, copious supplies of water, no expectorants, ice bags, close watching of the heart, light covering, etc. A number of drugs are mentioned as of use under certain conditions, but there is a gratifying absence of the long list at one time or another recommended. The discussion of the treatment of pneumonia seems to be a fair sample of the book.

In Part II only the more potent and better recognized remedial agents are discussed. And this is in no degree an ordinary enumeration of the pharmaco-

peal preparations, but is an attempt to give a working knowledge of the essential therapeutic agents. It goes without saying that in a work of this type many things will be in it which deserve criticism. To illustrate, on page 507 "formamint" lozenges are recommended for the throat, and on page 507 "Benger, Plasmon and Malt Glidine" are spoken of as of use during convalescence. Formamint is a proprietary throat lozenge of doubtful value and the other words are meaningless to the reviewer, and certainly also to most Americans.

The contributors have each written on an average of about eight pages and hence they have had plenty of time to put their manuscript in concise, succinct, readable paragraphs. The editors have done their work admirably and the publishers have used good, easily readable type and a good grade of paper. The reviewer wishes to recommend this book especially to the general practitioner. O. H. B.

PYELOGRAPHY (PYELO-URETEROGRAPHY). A Study of the Normal and Pathologic Anatomy of the Renal Pelvis and Ureter. By William F. Braasch, M.D., Mayo Clinic, Rochester, Minn. Octavo volume of 323 pages, containing 296 pyelograms. Philadelphia and London: W. B. Saunders & Company, 1915. Cloth, \$5 net.

While it is ten years since the introduction of this diagnostic technic by Voelcker and Von Lichtenberg, Braasch has without doubt had the largest experience in its application. There have been so many articles for and against this method that the studious effort of Braasch will serve to crystallize an acceptable judgment on the value and premises of safe pyeloureterography.

Any method of diagnosis which can present the topography of an otherwise hidden organ must be proved universally harmful before it is discarded. Undoubtedly we must take cognizance of many well-meaning authors who have condemned this procedure after a limited experience. It has remained for Braasch to present this classical monograph, containing 296 pyelograms, as an irrefutable argument for the safety and unique value of opaque injections into the genito-urinary tract. The clinical material which justifies this publication consisted of several thousand plates made at the Mayo clinic during a period of five years. The book includes a comprehensive collection of the various types of kidney pelvis outlined together with the Roentgen interpretation of the great variety of pelvic deformities generally encountered.

It must not be said that the book deals with pyelography exclusively because there are chapters on renal stone, ureteral stone, renal tumor and congenital anomalies of the genito-urinary system.

Regarding the make-up of the book there is much in commendation. The illustrations are reproductions of the original Roentgen plates, which is the most approved style. It requires an unusually high grade of glazed paper to carry Roentgen cuts, and the publishers have used the correct paper throughout the book thus permitting the printing of the cuts at the proper place in the text and avoiding inserts at irregular intervals. The author's style is easy and the wealth of interpretative information which he reads into the Roentgen negative is astonishing. This book is a worthy defense of rational pyeloureterography and a splendid demonstration of its positive values. The book has a much wider appeal than the limitations its title implies. The anatomist should be as delighted as the clinician and roentgenologist in the vast fund of valuable information on this otherwise hidden anatomic pathology. E. H. S.

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ORIGINAL ARTICLES

DEAFNESS DUE TO SYPHILIS*

PRELIMINARY REPORT

SAM E. ROBERTS, M.D.
KANSAS CITY, MO.

Through the recent advancements made in the technic of serologic diagnosis of syphilis, a new chapter on ear diseases is about to be written. Under this heading, "Deafness Due to Syphilis," in my final report I will discuss two forms of deafness: (1) paracutic deafness; (2) nerve or labyrinthine deafness. In this preliminary report I will discuss only the results of my investigations to date. I am using the term paracutic because it is descriptive of the symptomatology; the pathology has yet to be worked out.

Paracutic deafness is that form in which the patient is able to hear ordinary conversation best when in a noisy place; can carry on a conversation in the usual low tone on a street car or in a noisy place and hear distinctly every word; but when in a quiet room hears very poorly, or it may be necessary to shout to make him understand.

This form of deafness comes on gradually, is bilateral and usually more pronounced in one ear than in the other. The functional tests and history do not vary greatly from what we have chosen to call chronic catarrhal middle-ear deafness and in a majority of my cases, as I will show later on, are analogous to otosclerosis.

As near as I am able to determine from my records at the clinics and my private records, some degree of this form of deafness includes at least 25 per cent. of all people who are chronically deaf without a history of suppuration and between the ages of 20 and 40.

Beck of Vienna was the first to call attention to shortened bone conduction with a normal air as significant of lues. It was also determined

that any disease which produced increased pressure in the posterior fossa of the brain gave the same bone conduction. Notwithstanding this it is a valuable test and an aid in diagnosis.

No one to my knowledge has ever called attention to a short air conduction with normal or increased bone conduction as significant of syphilis when accompanied by paracusis.

Mr. Heath of London has written extensively on this form of deafness. He has described the pathology rather indefinitely as a relaxation of the ear drum ossicular chain, middle-ear muscles and membrane of the oval window. He gives as one of the main etiologic factors, too forcibly blowing of nose causing a great pressure through the eustachian tube into the middle ear, producing a distension, relaxation and eventually an atrophy of the drum and middle-ear structure. I have found the condition described by Heath to exist in the majority of my cases during the later stages of the disease, but I have not found that too forcible blowing of the nose was the main etiologic factor.

Up to the present time I have submitted eleven cases to spinal-fluid tests for lues. Of these nine were reported positive to Wassermann and gold chlorid, one positive to gold chlorid, negative to Wassermann.

Paracutic deafness usually begins between the ages of 15 and 30, comes on gradually, and under former methods of treatment grows progressively worse. Patients usually do not complain of paracusis and when questioned will say they had observed that they heard best in a noisy place, but had thought it due to the other person speaking more loudly, and only after a careful test for themselves were they convinced that they were paracutic.

They complain of a high-pitched tinnitus and autohyperacusis; that is, they speak in a low tone and are hard to understand, their own conversational voice sounding very loud to themselves.

The family history usually shows that some other member of the family has impaired hearing, more often a brother or sister than a parent. Rarely have I been able to get a history

*Read before Jackson County Medical Society, Dec. 21, 1915.

of constitutional disease in the family. The physical findings are not very important. Inspection of drum in early cases shows nothing characteristic, in fact the drums are very similar to the drums in chronic otitis media nonsuppurative. After the disease has existed a number of years the drum changes are, as I mentioned previously, relaxed and eventually atrophied.

Functional tests with tuning forks have rather a wide variance, depending on the chronicity of the case. The low C with 128 vibrations per second for bone conduction is increased; C-2 fork bone conduction, usually normal, may be slightly decreased; air conduction reduced for all forks, especially low tone.

Voice and acumeter tests are correspondingly reduced as air-fork tests.

Gelle test was negative in six cases. The patient could appreciate a slight reduction of sound intensity in three, and three tests were doubtful.

I will report one typical case:

Mr. H., aged 30, consulted me the first time, October 8. Chief complaint, impaired hearing both ears, worse in left. Paracusis and tinnitus.

Present Illness.—Began four years ago and had grown progressively worse. Has had three operations on nose and two on throat, which benefited the local condition but not the aural trouble. Had a diagnosis in New York of otosclerosis, which was later confirmed by two other examiners. Was given prognosis of probable absolute deafness and was advised to learn lip reading.

Family History.—Has one sister, aged 38, with impaired hearing, married five years, no children, no history of miscarriages. Mother's hearing impaired.

Personal History.—Has always been in good health. Was an athlete when in college. All history of acquired venereal disease negative.

Physical finding and functional tests were typical as previously described. Laboratory report was positive Wassermann and gold chlorid from spinal fluid.

He has had two doses of salvarsan in the last month. Hearing has improved between 15 and 20 per cent.

CONCLUSION

The etiology of this class of cases I have found to be syphilitic in from 80 to 85 per cent. and congenital in nearly all. For the other 15 or 20 per cent., if not syphilitic, I am unable to give a cause, but certainly we cannot longer call them catarrhal, the cloak behind which we have all shielded our ignorance for years in bad cases of deafness.

The only possible way catarrhal troubles of the nose, throat and eustachian tube could influence the condition under discussion would be to superimpose a secondary disease or complication, which could be eliminated by properly directed treatment.

The most important points in the diagnosis I consider: 1. History of gradual loss of hearing with paracusis (which I believe always means some degree of fixation of stapes) and

without suppuration. 2. Negative or relatively negative Gelle test—by compression of air in external meatus patient is able to note only a slight or no reduction in intensity of sound of tuning fork as conveyed through cranial bones. 3. Positive Wassermann and gold chlorid from spinal fluid.

I submit every case to spinal-fluid test for syphilis who has the first two points above mentioned, regardless of the patient's denial, a negative family history or the absence of other physical finding of syphilis.

Misleading histories of venereal diseases are traditional in medicine and much more so in a congenital condition of which the patient may never have had symptoms distinct enough, or education along those lines sufficient to focus his attention on the subject.

While it is not within the province of this paper to discuss the relative value of serological tests for syphilis, I will say that in ear cases I place the most reliance in the Wassermann and gold chlorid from spinal fluid. I have found the blood Wassermann in a number of these cases to be negative with decidedly positive spinal-fluid tests.

The pathology of this condition, while yet to be worked out, I believe to be a syphilitic periostitis or otitis in the capsule of the labyrinth. When it begins near the oval window and produces a thickening and infiltration of periosteum there will necessarily result some degree of stapedial fixation. The process, of course, may progress and involve the cochlea, vestibule and semicircular canals, their capsules and contents and nerve deafness will result.

If the case comes under observation, is diagnosed and properly treated while bone conduction is still increased, I believe there is some chance for improvement in hearing. If, however, it has progressed to a stage of shortened bone conduction showing nerve degeneration, the prognosis is unqualifiedly bad for functional improvement.

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THE NEW PUBLIC HEALTH*

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Secretary Kansas State Board of Health

TOPEKA, KAN.

It is a long, long way from the idea of demoniac and theological cause of disease as held by the ancients, to the modern conception of communicable disease as propounded by Pasteur, Koch and others of later years.

Man is no longer attacked by foes of the caliber of the mastodon—the saber-toothed

* Read before the Jackson County Medical Society, Oct. 19, 1915.

tiger, or the giant lizard—but as his boundaries have widened his foes have shrunk until they are now chiefly to be sought through the microscope.

The history of preventive medicine is closely linked with the history of medicine itself. From the earliest times of which we have record, crude attempts were made to prevent disease by charms, incantations or offerings to the gods.

It would seem to be clear that Moses had a keen appreciation of the transmissibility of certain diseases, for in the inspired account we read of the adoption of quarantine regulations requiring isolation outside the camp of those who were afflicted.

Not only was Moses a soldier, a statesman and a leader of the very first class, but he was preeminently the greatest sanitarian the world has ever seen, for did he not have a proper appreciation of the danger of human excreta? No outside toilets open to flies and domestic animals were permitted to offend the landscape of the Hebrew camp, and woe betide that householder who made improper disposal of the excrementitious matter from his family! Would that we had a Moses in every city and hamlet in this highly cultured land of ours, for we now know that the most dangerous spot, containing the most dangerous material in every community is the unscreened, open, outside toilet.

Preventive medicine as we now understand it was a blundering art until thirty or forty years ago, when it became a science by the discovery of the causes of many of the serious epidemic diseases.

Perhaps the first quarantine law, in the modern sense, of which we have any account is that passed in Italy in the fourteenth century. All vessels from the Levant were detained for forty days before the admission to the harbors of Florence or Venice. Later these same laws were applied to Lombardy, Milan and Genoa. The most grievous restrictions were imposed on personal liberty and trade. Similar quarantine measures were later adopted, in a more or less modified sense, by all the civilized countries.

With our present knowledge of the cause and dissemination of most of the communicable diseases we now know how extremely absurd and unjust were many of the restrictions imposed, and what unnecessary expense was caused by absurdly holding to what are now exploded theories. Great injustice was often done also in holding to rigid lines of procedure, notwithstanding that officials might well know the absurdity and futility of their action. An example of this character is cited as having occurred in a southern port in this country where the immigration officials required the disinfection of a barrel of carbolic acid before it was allowed to be landed. Another absurd and

almost incredible instance is cited as having occurred at Santander, Spain. A ship in that port had been on fire for some hours; the burning cargo was thrown about in all directions and started a general conflagration. Word was sent to an adjoining city for aid of their fire department whereon two steamships were dispatched with fire engines, firemen, surgeons, nurses and laborers. On arrival at the port where they were presumed to assist in staying the fire which threatened the entire shipping and the city, the provisional governor refused to permit the vessel to dock and discharge the much-needed apparatus because, he declared, quarantine had not been observed and he insisted that they comply with the regulations, which would involve several days' detention outside the harbor. It was only after several hours' delay that a way was found to circumvent the red tape of the provisional governor.

While in civilized countries the mass of the people have been freed from the superstition of the demoniac cause of disease, yet it is sad to relate that there are many highly educated people today who still believe in the theological cause of disease. We still hear the sad refrain, embodied in the stereotyped resolution—"Whereas, it has pleased Almighty God to remove So-and-so from our midst." Too often also we hear the statement from the pulpit when the last sad rites are pronounced over the precious remains of a darling child who was a victim of dirty milk and dirty bottles and perhaps a dirty mother, that "The *Lord* had called the little one to the mansions in the skies." May the day be hastened when the good people of our land will set aside the theological cause of disease and death as they have now pretty much set aside the demoniac cause.

I was very much impressed several years ago in reading on the church calendar of a certain church in Kansas a note written by the pastor, which was to the effect that "God would not hear the prayer to restore the little one to health so long as the fly-breeding heaps of trash remained in the back yard, which was the cause of the summer complaint." Would that we had more pastors who would preach the gospel of clean lives, both spiritual and physical!

The first state board of health to be created in this country was the Massachusetts State Board of Health. Similar enactments soon followed in several other Atlantic Coast states. It was not until April, 1885, that the Kansas State Board of Health was created.

The chief duty imposed on boards of health at that time was the enforcement of quarantine laws. In other words, methods for the restriction and the suppression of outbreaks of epidemic diseases. That was the *old* public health idea.

A few years ago progressive state boards of health had a vision of the new public health idea, best illustrated in the one word "prevention." The shot-gun, state-line quarantine imposed by the state of Arkansas on the state of Louisiana during the last outbreak of yellow fever is an illustration of the old and passing view of public health.

The recent untiring and eminently successful "Bat the Rat" campaign as carried on in New Orleans to prevent bubonic plague, is a fine illustration of the new idea of public health.

Another illustration of the old idea of public health is the requirement of private funerals of those dead from certain communicable diseases because it was feared the contagion from the body of the deceased would be dangerous to the public. While private funerals are still required in cases of this kind, it is from the new idea of public health, namely, that the danger to the public in a public funeral of this character is from association with carrier cases, of which there are usually one or more in the family of the deceased.

Formerly the most elaborate preparations and precautions were required to ship a person dead of a certain communicable disease. The new idea of public health recognizes the danger, not from the transportation of such a body but from association with those who were exposed to the infection during the life of the deceased.

However, public opinion has not kept pace with the progress in scientific knowledge and therefore many unnecessary, expensive and burdensome precautions are still imposed on the shipment of bodies dead from a communicable disease, notwithstanding that they have been effectively disinfected with embalming fluid; but the living carrier cases are permitted to go and come with impunity.

The fundamentals of the new public health propaganda may be divided under the following heads:

1. Sanitary surveys.
2. The production of artificial immunity.
3. Research and investigation.
4. Popular education, all of which spell the one word, "prevention."

1. *Sanitary Surveys.*—The only method by which we may gage the health hazards of a community is by a careful inventory or survey. In Kansas a number of city surveys have been made by the state board of health. The one in the city of Topeka was made by the Russell Sage Foundation in conjunction with a local organization working with the state board of health. Topeka has had for a number of years an abnormally high death rate. When the city's attention was called to the fact of her high death rate it was generally discredited or disbelieved, and one excuse or another offered in

extenuation. After all the corrections to which the city was entitled were applied to the rate the fact that the death rate was abnormally high still remained. The agitation of this question led to a thorough sanitary survey of the city, perhaps the most complete and searching that has yet been undertaken in any city in this country. Conditions were uncovered which might well be given as causes for the high morbidity and mortality. To illustrate: There was found within the city limits a dairy grossly unsanitary in condition the existence of which was unknown to the city milk inspector. It was discovered that the highest morbidity and mortality rate existed in those portions of the city that were unsewered and depended on wells for their water supply. The gigantic task of analyzing water supplies from 1,600 wells was undertaken by the state board of health and on tabulation of the results it was found that approximately three fourths of the wells were grossly polluted.

Health risks in industrial diseases were uncovered. Housing conditions were discovered that supposedly existed nowhere outside of Kansas City, Chicago or New York. Uncared-for cases of tuberculosis in such numbers were found as to menace the residents of entire blocks.

The results of the survey were boldly faced by the city of Topeka in an exhibit that was held for ten days on the principal street with stereopticon slides and lectures every afternoon and evening; thousands of the citizens attended the lectures and exhibits.

Topeka asked to have a diagnosis made and when it was once made the city had the good sense to take her medicine. The results of this survey in less than two years' time are that a public health nursing association has been established in which eight visiting nurses are employed; the infant mortality rate has been reduced these two years on an average of over 23 per cent.; East Topeka, where 10,000 people lived without a sewer system, is being sewered throughout its entire limits and city water is being carried to every corner of the city; a real milk inspection has been established and Topeka now has the best milk supply of any city of its size in the West; and last but not least she has engaged the services of a full-time health officer!

The survey in Topeka is merely mentioned as an illustration of the tremendous value of a real inventory of the sanitary conditions of a community.

Sanitary surveys have been made in two counties in Kansas: Sumner County last year and Wilson County this summer, the latter just being completed at the present time. In both of these counties house-to-house visitation has been made at every residence and farm house

in the county and careful data gathered with special reference to the prevalence of communicable disease, particularly typhoid fever. Literature on the prevention of typhoid fever has been scattered broadcast.

Where sanitary defects existed in the water supply or in the toilet facilities, the home or the barn, special reference being made to the production of milk and milk products, the householder's attention was diplomatically called to them and request was made for betterments. This request was later followed up by a letter to the householder asking whether or not the suggestion had been complied with. In the case of an outside toilet, if it was made to comply with the sanitary standards a certificate of inspection, reading as follows, was sent to the householder:

"Certificate of Inspection. This is to certify that this Privy No.— has been inspected, and found to be an efficient arrangement for the safe and sanitary disposal of human excreta."

The number and name of its owner is retained and is recorded in the files of the medical officer in charge of the sanitary survey of Wilson County, Kan.

The survey in Wilson County has been made by the state board of health in conjunction with the U. S. Public Health Service, three officers of the service being detailed for that purpose, working in the field with two representatives of the Kansas State Board of Health. Thus, the force and prestige of the United States government has been put into the work in Wilson County.

October 5 the climax of the Wilson County survey was made at the county seat in the shape of a "Sanitation Day" celebration, in which federal and state officials, county and city officials, together with the householders of practically the entire county took part in a gigantic parade, which illustrated with clever and appropriate floats the various aspects of sanitation and disease prevention.

We confidently expect that typhoid fever in Wilson County, which has a typhoid rate in excess of that of the state as a whole, will be very greatly reduced if not almost entirely eliminated as a result of this intensive work.

Later in the fall it is intended to cover the county by having public lectures, illustrated with moving pictures, given in every schoolhouse in the county. Finally, it is designed that in a year from this time the county is to be again gone over to pick up the remaining stragglers who have refused to listen to the warnings of the health officer in protecting his family from the dangerous outside toilet, and to exhort the backsliders who have become careless and returned to their old ways. It seems certain that such intensive work must bear fruit in the

years to come by a lowered sickness and death rate for the inhabitants of Wilson County.

2. *The Production of Artificial Immunity.*—From very early history attempts have been made to produce immunity against disease. Many hundreds of years ago the Chinese snuffed up their nose powdered and dried smallpox scabs which produced the disease in a mild form thus producing immunity to the more virulent outbreaks of smallpox which has always been so destructive to life in the Orient.

The observation of Jenner of the Dorsetshire farmer's immunity to smallpox because his family had been inoculated with cowpox through the milking of diseased cows, was the real beginning of the great movement toward the production of artificial immunity which in the past few years has achieved such popular recognition among the people.

The time seems to be near at hand when any person so minded may go to his family physician and purchase immunity from any communicable disease in as simple a fashion as he goes to his tailor for a suit, and with greater assurance of securing immunity than of getting a "good fit."

The new public health, recognizing any means of prevention, is now engaged in furthering the propaganda of the production of artificial immunity, as instanced by the action of the progressive state boards of health in supplying vaccines, serums and antitoxins free to the indigent poor of their respective states, some even going so far as to supply these biologic products free to every citizen requesting them.

For several years the Kansas State Board of Health has been distributing diphtheria antitoxin free to the indigent poor of the state. Two years ago the board began the distribution of typhobacterins from their offices in Topeka, but recently the board has arranged to supply the distributing stations throughout the state, approximately 500, not only with the diphtheria antitoxins but with the typhobacterins, smallpox virus and tetanus antitoxin. Antimeningitis serum is also distributed from the main office in Topeka.

The time is already here when quarantine for smallpox should be abolished, for why should the public be burdened with the expense of quarantining those individuals who refuse to avail themselves of such absolute immunity which may be conferred at so little pain and expense? Is it not time that those who elect to have smallpox should be permitted to have it without burdening his neighbor who has gone to the pains and trouble of securing immunity from this preventable disease?

The knowledge that a considerable proportion, if not the larger proportion, of communicable diseases are spread through healthy carriers, or mild cases that are unknown to the

physician or health officer, make it imperative that artificial immunity be practiced, not only in all exposed cases, which we can now with certainty immunize, but that the public in general be taught the value and utility of securing immunity, thereby greatly reducing the health hazard in relation to communicable disease.

3. *Research and Investigation.*—The names that stand out with brilliant refulgence among the heroes of medicine are chiefly those who have made great discoveries in preventive medicine. The memories of Pasteur and Koch, and of our own Drs. Reed, Carroll, Ricketts and McClintock, who laid their bodies on the altar a living sacrifice to the advancement of scientific preventive medicine, will ever be glorified by all true lovers of their fellows. These names stand out as mountain peaks on a continent because of their having laid down a substantial and lasting foundation, broad and deep, of that phase of medical science which is calculated to prevent human suffering and early death.

Yellow fever, which a few short years ago stagnated trade and paralyzed industries, is now hedged in by the gossamer of a mosquito netting, and when the breeding haunts of the mosquito have all been abolished that pestilential power of the tropics will have become a matter of history.

The bubonic plague, with its former mortality of 100,000 a month, has been greatly reduced by the discovery of the methods of dissemination of the disease and, with the extermination of the rat and his companion, the flea, the time will come when this disease too will be but a memory.

The nations of the earth have joined hands to handicap the ravages of tuberculosis, and already the end of the great White Plague is dimly seen in the not distant future.

The story of the conquest of yellow fever in Havana and the Panama Canal Zone is one which nothing else can match in the history of human advancement. Before our eyes today the most striking achievement in sanitation has been consummated. It was finally admitted that the digging of the great canal was a question of the health of the workers and not an engineering impossibility. For four centuries the Isthmus had been a white man's grave, but now I understand there is serious thought on the part of some enterprising doctors of turning it into a tropical health resort.

Numerous laboratories the world over are delving into the mysteries of Nature to unfold the hidden secrets of disease. The new idea of public health has declared that a part of its work is the utilization of the great field of observation and epidemiology for the purpose of research and investigation. Thus, many public health men are engaged in research which

is adding material day by day to our fund of knowledge along these lines. This is particularly true of the U. S. Public Health Service with their well-equipped and splendidly officered hygienic laboratories. Many state boards of health are as rapidly taking up this phase of work as their unwilling and uninformed legislatures will permit.

From the vast amount of research and investigation carried on all over the civilized globe we can confidently hope that great discoveries will from time to time be announced to the waiting world.

The mystery of cancer cannot be hidden much longer. The expectant people are only too anxious to crown as the greatest benefactor of the race the man who discovers the cause and points the way for the prevention of cancer.

4. *Popular Education in Public Health.*—Probably the most important function state boards of health have recognized in the new public health program is popular education in matters relating to the prevention of disease. The questions of quarantine, disinfection and other allied duties, are mere incidents to the more weighty matter of popular education. Indeed, after all, the so-called "police measures" in public health work are largely if not entirely in control of local health authorities and not the state boards of health.

Educational methods are varied and differ widely in their results. More recently, public health authorities have shown great wisdom in choosing ways and means that have been found successful by shrewd business men to carry the gospel of health instruction to the people. Take, for illustration, the old "patent-medicine" almanac which decorated the mantel of our forefathers; it has been made to serve its purpose in public health education in a most admirable way. Four years ago Kansas issued her first Health Almanac which scored a success from the very beginning. The grossly false, misleading statements of the "patent-medicine" fakers have been supplanted by brief descriptions of the more common communicable diseases, with suggestions for their avoidance. The jests and stories of the almanac clown have been replaced by pungent health epigrams. Important dates in history have been used to give a running comment on Kansas historical facts sandwiched in with pointed statements to fix attention and inculcate practice in personal hygiene. The old-time sun and moon phases, with the meteorologic observations common to all almanacs form the framework.

Health authorities have not been slow to make use of the moving picture as a method of education and the stereopticon loan library has become a permanent institution in the Sunflower State.

The popular postcard, bearing health epigrams, has been scattered broadcast by the tens of thousands, and hundreds of thousands of leaflets bearing the Kansas slogan "Swat the Fly" have been widely distributed over the state for the past eight years.

In addition to a regular monthly publication and weekly press articles, all wide-awake health departments now issue special bulletins treating in a simple fashion each of the communicable diseases so that they may be readily understood by the most ignorant layman.

Exhibits installed at chautauquas, county fairs and school conferences are constantly used, and now the very latest is the installation of a parcel's post exhibit by which the pictorial gospel of health may be sent by mail to any portion of the state at slight expense.

It has been discovered that people are instructed not by long and wearisome articles which nobody reads but rather by pointed and pungent sayings that will catch the attention and fix the memory on a certain object or thing, or by appeal through the visual sense which instructs as well as entertains.

One further step has been taken in the program of the new public health, namely, the institution of the public health nurse. The time is already here when health departments should have the aid and assistance of a visiting nurse whereby personal instruction may be taken to the home and the uncared-for given the necessary care, to the end that not only may human suffering be assuaged but the public protected from the results of ignorance and carelessness.

Practitioners of medicine are beginning to understand too that the examination of a patient is only completed in part after the most careful physical examination has been made, for it is only after full knowledge is obtained of how and under what conditions the patient works and lives can it be said an accurate diagnosis is possible and the appropriate curative agencies be applied.

On October 11 a new school for public health education was opened in Topeka. It is designed to train registered nurses in the work of public health nursing. The didactic instruction is given by the staff of the state board of health and certain members of the faculty of the University of Kansas. The clinic field work is under the auspices of the Topeka Public Health Nursing Association.

We hope to train nurses not only to meet the growing demand for public health positions but also to arouse a more general interest in all public health work.

Organic Diseases and Public Efficiency.—The trend of events seem to point to the necessity of an early recognition by public health authorities of what appears to be an increasing prevalence in the so-called organic diseases, with their

heavy loss of life in early maturity and their crippling the efficiency of men and women who should be in their prime. Already the death rate from diseases of the heart, the circulatory system and the kidneys outrank the death rate for any of the so-called communicable diseases. In an address made before the American Public Health Association in Rochester a few weeks ago Mr. E. E. Rittenhouse, president of the Life Extension Institution, made the following statement: "Vital statistics indicate that as a body Americans are physically deteriorating. If the present indicated trend of physical decline in the power of the American people to resist the wear and tear of modern life continues, the time will come when we will have to depend upon a weak, soft-muscled, flimsy-fibered people for the defense of the republic and the perpetuity of the race."

Prof. Irving Fisher of Yale declared not long since that over 50 per cent. of the laborers in this country were inefficient to a degree of 10 per cent. or more due to physical infirmities, most of which were preventable. The economic loss for such inefficiency was calculated to reach the enormous total of a billion and a half yearly.

A statement recently made by the U. S. Public Health Service is to the effect that out of 2,000 male workers and 1,000 female workers who volunteered to have a careful physical examination made by the officers of the Service, it was found that only about 2 per cent. of the total number examined were free from defect or disease.

While not all of these were serious defects many of the defects noted exerted a deleterious effect on the individual. Among males the rate of prevalence of tuberculosis was found to be ten times that of the United States Army and three times the army rate among females. Naturally the disease was most prevalent among the lowest paid class of workers.

Apart from tuberculosis the most common defects and diseases noted among the garment workers were defective vision, 69 per cent.; faulty posture, 50 per cent. of males; chronic nose and throat affections, 26.2 per cent.; defective teeth, 26 per cent.; pyorrhea alveolaris, 20 per cent.; weak and flatfeet, 26 per cent.; chronic constipation, 23.7 per cent.; hypertrophied tonsils, 15.3 per cent.; defective hearing, 10 per cent., and nervous affections, 7.75 per cent. Only 11.5 per cent. of those with subnormal eyesight wore glasses and but 2.35 per cent. of these had glasses which fully corrected the defect.

The conclusion reached by the investigators is that a large portion of both the defects and diseases of the garment workers arises from either ignorance or neglect of personal hygiene. A proper regard of these principles on the part of the workers would go far in nullifying the

bad effects of the sedentary occupations upon the health.

By a consultation of the death rates of the United States Registration Area between 1900 and 1912 we find that the deaths from chronic diseases of the heart have increased from 111.2 per 100,000 in 1900 to 142.6 per 100,000 in 1912; deaths from nephritis have increased from 81.5 per 100,000 in 1900 to 92.5 per 100,000 in 1912; deaths from different diseases of the circulatory system other than the heart have increased from 103.5 per 100,000 in 1900 to 123.4 per 100,000 in 1912. The examination of reliable data from many of the larger cities and from individual states tells the same story and we are brought face to face with the fact of an actual increasing death rate from the so-called organic disease.

Moreover, it has been pretty well established that the average increase in the length of life has been made almost entirely in the younger age groups, and that the average age in the older age groups, that is, from 45 years and upward, is actually decreasing at the present time.

The new public health must take cognizance of these conditions but health authorities find themselves tremendously handicapped by the very nature and enormity of the task. Indeed, it appears to me that the greater share of the work in educating people into habits of right living—the lack of which is fundamentally at the basis of the organic diseases—must be left largely in the hands of the family physician and public health nurse.

In this new field of work not only must our clientele be trained how to take sane and wholesome *advice* as well as to take medicine, but physicians should prepare themselves to meet their responsibility along this line. The great insurance companies recognize the value of right living in preventing organic diseases; they also recognize the immense value of early recognition of such diseases and are spending large sums of money in a propaganda of education among their policy holders.

If it were possible to duplicate the investigation in every city of the country recently made in New York it would create sufficient interest and arouse the public conscience to a place where the prevention of organic diseases would receive something near its proper consideration.

The Life Extension Institution examined the employees of commercial houses, banks, etc., to the number of 2,000, the average age of individuals being 30 years or over. Among that number the following diseases were found: organic heart disease, 5.83 per cent.; arteriosclerosis 13.1 per cent.; urinary symptoms—albumen, sugar, casts—35.63 per cent.; cases showing combined disturbances of circulation and kidneys, 12.77 per cent. A similar examination of

696 individuals by the New York State Department of Health ranging in ages from 15 to 74, with an average age of 32, gave approximately the same results. I doubt not if examinations were made of a similar class of people in Kansas City about the same results would be obtained. Is it not time, then, that some official governmental body take up the tremendously important proposition of the prevention of organic diseases?

The great Metchnikoff once declared that the individual should live to an age of 140 years at least. In effect, he said that death should occur only in the same logical way as befell the "Wonderful One-Hoss Shay," that is to say, each part as good as every other part until all are worn out together, instead of death coming as a result of only one part becoming disabled while the others are perfectly normal. If Metchnikoff is right, and the history of the early life of the race as recorded in Genesis seems to warrant such a conclusion, then we must agree that there must be something radically wrong with our modern ways of living, or that the race has deteriorated so that the Metchnikoff standard of longevity is unattainable under any conditions; both of these propositions are, probably, in part true. Naturally, then, the question might be raised, is there no hope for the race that the span of life may be lengthened, our efficiency for work increased and our declining days spent enjoying the fruits of our labor until, like that ancient vehicle on the day of the great earthquake,

"It went to pieces all at once—
All at once, and nothing first,
Just as bubbles do when they burst."

May we not confidently hope, basing such hope on the wonderful progress of both curative and preventive medicine during the past decade, that the Metchnikoff standard of longevity and efficiency may be attained before the lapse of another century?

DRUG ADDICTION *

M. W. HOGE, M.D.
ST. LOUIS

Of those drugs to which addiction is formed to such an extent as to constitute the habitués subjects for medical treatment, the most important are alcohol, opium and coca leaves, and the derivatives of the latter two.

Alcohol not being included in this discussion, our attention is directed chiefly to addiction to morphin and cocain, the derivatives of opium

* Read before the St. Louis Medical Society, September 10, 1915.

and coca leaves, respectively, that are the most active and most commonly used and whose effects are in a measure typical of those of the habit-forming drugs in general.

The time allowed for this paper will obviously permit only a sketch of the more prominent symptoms and of the general nature of drug addiction.

Morphin and cocain, especially the former, are usually taken in the first place to relieve or prevent pain, either physical or mental, and acquire the hold on the patient that constitutes the drug habit by reason of several circumstances, among which the following are prominent:

The pain or discomfort for which the drug was originally taken recurs, leading to repeated and finally continued use.

To some degree after one dose and in greater degree after prolonged use, on withdrawal, abstinence symptoms occur which the patient finds can be relieved by repeating the dose. These drugs also produce euphoria, a sense of wellbeing and cheerfulness in pleasant contrast to the previous state of pain, despondency or anxiety. After prolonged use the distress accompanying abstinence is so great that it is as a rule impossible for the patient to overcome the habit unaided; and even after apparent cure there is a strong tendency to relapse.

Probably the most important factor in relapses after a cure is that these patients as a result of the drug habit develop a psychoneurosis of the hysteroneurasthenic type if not identical with this state. And if the patient was a sufferer from this disorder before beginning the drug habit, as is often the case, his neurosis becomes thereby aggravated. Unless this condition is recognized and properly managed the patient is almost certain to relapse even after a year or more of abstinence if the drug can in any manner be procured.

Some persons begin the use of a particular drug from curiosity or from the example of others and finding the effects pleasant continue until the habit is fixed.

The pain for which drugs, usually opium or one of its derivatives, are taken may be caused by any one of the many organic diseases that cause pain or it is of psychoneurotic origin or aggravated by this state, or may be purely psychical, as emotional depression or anxiety.

The pain may merely undergo a remission while the effect of the drug lasts, leading to a repetition of the dose at short intervals; or there may be at first considerable intervals between the occasions calling for this form of relief, which intervals gradually become shortened until continuous use is necessary for comparative comfort, the patient tending more and more to take a dose for the relief of any trivial pain or discomfort.

Tolerance is gradually acquired and increasing doses are necessary to produce the desired effect. Usually the patient takes more than the amount needed to relieve pain in order to produce euphoria.

The drug habitué is never in a normal state. Mentally he develops intellectual and ethical defects and oscillates between the mild excitement of a recent dose, the dull dreamy state that comes on when the narcotic effect becomes more pronounced (especially when morphin is used), and the restless irritability resulting from abstinence. Sleep is usually disturbed, the secretions diminished with occasional compensatory overactivity, and nutrition in general impaired. Hyperesthesia and paresthesia are complained of, and tremor, ataxia, various derangement of the circulatory apparatus and occasionally paresis of the eye muscles are observed.

Animal experiments indicate that the habitual use of morphin as well as other drugs of similar character, causes degeneration of nerve cells and proliferation of neuroglia.

Within a few hours after the last dose of morphin abstinence symptoms begin of which the principal ones are restlessness, anxiety, sleeplessness, profuse perspiration, pains, extreme weakness with tendency to collapse. Where delirium develops usually the patient was also addicted to cocain or alcohol. These symptoms are attributed to the toxic effects of the oxidation products of morphin, to autointoxication from disordered secretion and excretion and to the reaction caused by the absence of an accustomed stimulant, to all of which morphin acts in a measure as an antidote.

When withdrawal has been accomplished, appetite, sleep and other functions improve, usually within a few days after the last dose. The patient gains weight and within a few weeks seems approximately normal. But his weakness of will and tendency to depend on external aid remain and unless this mental state be corrected he will relapse.

Cocain may be taken primarily for the pleasurable excitement that it causes, but its use is often begun as a substitute for the morphin habit, with the result that the patient becomes addicted to both. In its effects it differs from morphin, in that it produces psychomotor excitement instead of inhibition. The patient is talkative, active in an ineffective way, later depressed and exhausted. Large doses cause active delirium followed by collapse. Continued use causes a restless tendency, oversensitiveness to sounds, flight of ideas, incapacity for intellectual work, impairment of will and memory, planless activity, irresponsible and disordered conduct. Immediate withdrawal from an habitué is likely to induce collapse. Cocain causes greater intel-

lectual and ethical deterioration than morphin and the prevention of relapses after withdrawal is more difficult.

The psychoneurotic state that often leads to the beginning of drug habits and to relapses after apparent cure is of the same general character as when met under other circumstances. Its severe manifestations may be more or less continuous, leading to an early relapse; or occur only periodically so that the patient may have a somewhat prolonged period when he experiences no desire to resume the habit. Kraepelin mentions patients who have morphin sprees with intervals of abstinence comparable to dipsomaniacs of similar habits.

Drug habitués do not readily lend themselves to an investigation of the mental state that leads to the continuance of the habit. Their tendency is to defend themselves, to attribute each relapse to some external event, to accidental circumstances, which they hope in the future to be able to guard against.

Certain features of the psychoneuroses deserving special consideration in this connection are, exaggerated autistic tendencies, narrowing of the field of consciousness, especially of the emotions, and states of anxiety and depression which may be more or less continuous or definitely periodical.

Autism or autistic thinking is a term proposed by Bleuler for forms of mental activity exemplified by revery and day-dreams, and in more pronounced form by sleep-dreams and the mental processes of dementia praecox. Its essential characteristic is that it is determined by the emotional demands of the patient without conforming to logic and reality—may indeed be in direct opposition to these. Its purpose is to represent the individual's wishes as fulfilled. When under volitional control it need not be abnormal, is indulged in by all to a greater or less extent, especially by persons of so-called imaginative tendencies, such as writers of poetry and romance. It becomes pathologic when employed as a mode of retreat from the unpleasant realities of life, so that the individual retires from the world of logic and reality into an artificially constructed dream-world instead of facing and overcoming his difficulties, or adopting the best practicable compromise with them.

The narcotic drugs favor the development of this state by making the user anesthetic not only to pain but also to the difficulties and obligations of real life, and by their power to stimulate the imagination; and also, by reason of these properties, the drugs make an especial appeal to those in whom the autistic disposition is decidedly developed.

The occurrence of retraction of the field of consciousness is a familiar feature of the psychoses in general, especially of hysteria. As affecting particularly the emotions, it produces the phenomenon of a patient having a clear intellectual comprehension of a situation which would normally cause decided painful or pleasurable emotion but to which the patient is simply absolutely indifferent, often to his own surprise. It is comparable to the areas of physical anesthesia occurring in hysteria.

An idea without emotional charge is inert without regard to its actual value. So the drug habitué may clearly understand the harmful effects of indulging in his habit both for himself and for those related to him, but the idea, at least at critical periods, is without emotional coloring and does not affect his conduct. This, I believe is largely the nature of the so-called ethical defect noted in drug habitués.

It should be kept in mind, of course, that emotional changes, like sensory changes in hysterical and allied states, are not necessarily permanently fixed, and just as the physically anesthetic areas may at times be normally sensitive or hypersensitive so the drug habitué has his periods of profound remorse and of determination to reform. But I believe from what study I have given to this feature that an important element in the relapse after cure consists at the critical period in a retraction of the emotional charge from inhibiting ideas, and its concentration on the patient's own immediate distress.

The critical periods referred to are as a rule attacks of anxiety and depression which may be definitely periodical or merely exacerbations of a persistent state of the condition. Attacks of pain from any cause or the chance taking of a dose of the drug to which the patient was addicted, act in the same way.

In this connection we must also consider habit per se, namely, the tendency to continue the performance of an accustomed act. A partial explanation of this phenomenon may be found in what Ziehen terms the constellation of ideas; by which is meant that when certain brain functions have repeatedly coordinated to the performance of some act in response to a definite stimulus a cohesion develops among these functions, so that after a time the occurrence of the stimulus tends to call forth the same response without the intervention of the volition of the subject, or even in opposition to his volition.

These patients cannot be considered as cured when withdrawal has been accomplished and their physical condition seems normal, but only when the psychoneurosis that is the basis of the habit has been recovered from.

Metropolitan Building.

DIAGNOSIS OF DISEASE, THE GREATEST NECESSITY OF THE AGE*

J. H. WALTON, M.D.
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There never was a time in the history of our profession when more attention was being devoted, and rightly so, to the diagnosis of disease than the present. We can all recall how much stress we have laid on the treatment of disease in our medical societies and even when in counsel at the bedside of a patient suffering from some obscure condition, the pathology of which was still hanging in the balance of indecision and on which we were unable to place the stamp of diagnosis.

A few years ago our medical colleges and postgraduate schools were content with their teaching, which consisted in bringing before the students a large number of clinical cases with the diagnosis and treatment all worked out; that regimen has undergone a marked change, and today the student is required to work the case out for himself. As a result, the men with whom we are to measure arms on the morrow are taking up the practice of medicine with a better knowledge of the means and methods of diagnosis than it was our lot to possess. It behooves us as students of medicine to keep pace with the advancement in our profession and acquaint ourselves with these later methods of diagnosis, and either do or have them done in all cases where it is necessary for a positive diagnosis.

First of all, we should train ourselves in the method of taking a good and intelligent clinical history, which can only be done by having in mind the various diseases suggested by the history in question. Then when you follow up with the physical examination, let it be thorough. Begin at the top of the head and extend to the sole of the foot. Practice correct methods in outlining internal viscera, the spleen, liver and kidneys where they are palpable. Note bunches and enlarged glands, tumors, rigidity, tenderness and dulness. Pay attention to the apex beat of the heart and practice outlining this organ with an indelible pencil.

Râles, bruits, prolonged inspiration and vocal response should all receive consideration. Then turn the patient over and investigate posteriorly as systematically as you have anteriorly. Pelvic and rectal examinations should not be neglected where indicated.

I feel that every practitioner should acquaint himself with giving test meals and their analysis, both chemical and microscopic. The test for occult blood should be made in a large number of cases that come for diagnosis. It behooves the practitioner to do the greater part

of his microscopic work, especially the examination of blood for plasmodia, splenomedullary and lymphatic leukemia.

In my own practice I get most wonderful help and valuable information from the blood count, which includes erythrocytes, leukocytes and the differential. The stained specimen of blood will suggest the diagnosis of intestinal parasites, trichina, etc., by the eosinophilia when nothing else is suggestive. Then we must not forget the stipple cells in lead colic when dealing with abdominal pain of unknown origin.

Urinalysis should be a routine measure, both chemical and microscopic. Where pus is abundant, stained specimens and animal inoculation must not be neglected. A Wassermann reaction is often necessary and, while this is too complicated a test for the general practitioner, he should be awake to his duty and not fail to have it done where indicated.

We should also know the significance of the various reflexes and test them out where meningeal and nerve lesions are suggested. We should hesitate in pronouncing all pains about the back and joints rheumatic and be prepared to differentiate arthritis, tubercular joints, sacro-iliac relaxation and sciatica. The Roentgen ray must not be overlooked as a great diagnostic aid in many cases. I could go on and enumerate other diagnostic aids, but let this suffice for the present.

With all these helps and methods before us a small percentage get by without a positive diagnosis during life, and we only grow wiser by the postmortem findings.

I have always contended that any man of average ability could treat and manage a case intelligently if the diagnosis was made, and after thirteen years of experience as a general practitioner I have not changed my conclusion. I do not pretend to say that I diagnose every case I come in contact with, but I do say that I make a study of every case and use every means possible to arrive at correct conclusions.

No one can deny that we as physicians in the past have neglected the vital part of our subject, "diagnosis," and laid entirely too much stress on treatment. Yes, we have been deceiving ourselves and using our therapy with a confidence that would imply that the Pharmacopeia abounded with specifics.

Let me go further and say that there is an excuse in not curing every case, but not so in making a diagnosis. John B. Murphy made this statement to his senior class in 1914: "The failure to diagnose is what, in the future, we shall be held accountable for." And rightly so, for in the report from a committee appointed to investigate the condition of the New York hospitals and dispensaries, and published in the *New York Times*, shows that 47 per cent. of the cases that come to the dead house for

* Read before Henry County Medical Society, Dec. 8, 1915.

necropsy showed error in diagnosis. Not only that, but the cases that came to necropsy were the severe cases. What does this mean? It means that a large proportion of the 47 per cent. represents indolence in our profession and not inability.

They found also that at some of the dispensaries cases were examined with their coats on. I just wonder if any of us have ever been guilty of a like omission. Surely the day has passed for making a diagnosis by feeling the pulse, looking at the tongue and then prescribing.

By this I do not mean a patient should be gone over thoroughly every time he presents himself at our office complaining of some trivial condition; but I do mean that it should be done the first time that he comes for advice, and that a record of that examination should be kept for future reference. Then when he comes again, investigate the symptoms he complains of and treat him accordingly.

Only last year, while taking postgraduate work at the St. Louis University, four practitioners were assigned a case at the city hospital to work out the diagnosis. They found an old heart lesion and hounded it for half an hour, then reported to the clinician that they had made a complete examination of the patient, when in the presence of a dozen physicians he drew down the cover and disclosed that the patient had both limbs amputated above the knees. Do you call that a lack of knowledge, or a failure to investigate?

Let me say that the practice of medicine is a busy job for the man of today and requires every moment of his time and attention. He must be a student and keep his library up to date if he does justice to his patient and reflects honor on his profession.

Only a few months ago a physician of twenty years' experience brought the following case to my office for diagnosis. Aug. 1, 1913, Edward M., aged 24 years, both parents living and in good health, three brothers and a sister in good health. The patient had measles and whooping cough in childhood with complete recovery. No illness of importance until 1900, when he had typhoid fever for eight weeks, with an uneventful recovery. He dates his present illness from two months ago, when he began to have pain in the cardiac region on deep inspiration. He tired readily and showed dyspnea on exertion. For the past three weeks he had complained at times of sweats and chilly sensations, a severe cough and headache. The special examination was conducted at 10 a. m., and I found his temperature under the tongue 100 F., pulse 120 sitting, 120 standing. His systolic blood pressure was 100, diastolic 85, hemoglobin 75 per cent. His extremities were cold and clammy; he was poorly nourished and

anemic. His tongue was furred, and appetite capricious. Inspection of the chest showed greatest expansion on the right side. Percussion showed dulness anteriorly from the second interspace to the lower rib margin. Posteriorly there was almost complete dulness. There was absent tactile fremitus and breath sounds. Vocal resonance was absent. There was myotic irritability. The apex was pushed over to the right of the sternum. The leukocyte count was 5,000; the differential count showed nothing abnormal. I aspirated a straw-colored fluid, which was of low specific gravity, no bacteria, a few leukocytes with lymphocytes predominating. The fluid being clear, I used 10 c.c. in autoserotherapy, and by so doing gave the patient a little of his own sodium chlorid and a little of his own tuberculin. In this case it became necessary to draw a quart of serum for a two-fold purpose: first, to get rid of some of the fluid to relieve the dyspnea, and second, to investigate further and ascertain what the lung condition was.

As anticipated, I found lung involvement. I always make it a rule in aspirating to be careful not to penetrate a dirty lung and inoculate my patient from within as I consider this source of infection in aspirating greater than from without. The sputum did not contain tubercular bacilli, yet I was compelled to make a diagnosis of pulmonary tuberculosis with effusion.

Permit me to say, in conclusion, that this case was introduced to bear out my contention as to the necessity of diagnosis, as this young man without ever being stripped for examination was being treated with large doses of quinin for malaria. One year and a half since then has been ushered into the past, and this young man on tonics, a proper diet and fresh air, both day and night, shows evidence that he is on the road to recovery.

EMPYEMA *

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The object of this paper is to emphasize again that empyema is not easy to diagnose, that the mortality is nearly as high as it was ten years ago, and that perhaps more mistakes are made in diagnosing this disease than any other inflammation with pus formation. In reviewing the literature, I find many articles dealing with this subject, but most of them put much stress on etiology, which we will admit is important, but which has not reduced our mortality. More work must be done to bring about an earlier

* Read at the Fifty-Eighth Annual Meeting of the Missouri State Medical Association, St. Joseph, May 10-12, 1915.

diagnosis; this would mean an early operation and while our patients are in a much better physical condition. This I believe will be a factor in lowering our mortality rate, shortening the course of the disease, and doing away with postoperative fistulae and discharging wounds.

Empyema is usually secondary, but some report primary cases. It is very important in these cases to get a good clinical history; upon it alone a diagnosis can sometimes be made.

Pneumonia in the process of resolution should always be connected with empyema. One should always be on the watch for chill, fever, rapid pulse, cough, night sweats and anorexia. It

Physical Signs.—Patient very much emaciated; disproportionate between sides especially in children; bulging or obliteration of intercostal spaces; dulness on percussion, which may change on shifting the position of the patient; Shoda's sign, percussion note just above upper limit of dulness is often tympanitic; vocal fremitus diminished and in most cases imperceptible; heart may be displaced from pressure of fluid; Roentgen-ray picture must not be for-

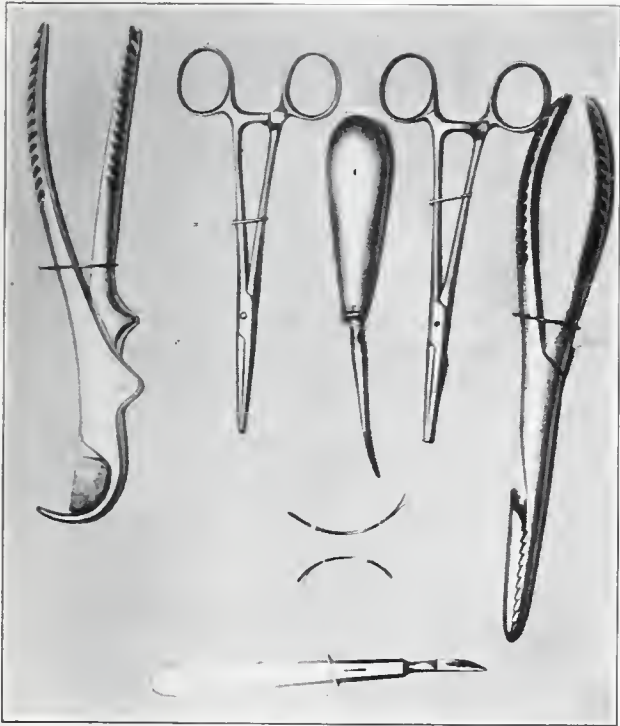


Fig. 1.—Instruments used in the resection of a rib.

should always be remembered that liver abscess, subdiaphragmatic abscess, perforated ulcer, stab wounds of chest, gunshot wounds of chest, and acute infectious diseases are complicated with empyema. In children the disease is more acute and usually recognized in the earlier stages, but many cases of empyema in children have been overlooked by very competent physicians.

Dunlap of the Royal Hospital of Edinburgh says that whenever a child is referred to him with a diagnosis of marasmus, tuberculosis or syphilis he always excludes empyema.

These cases always show an anxious, careworn look, chill, fever, rapid pulse, rapid breathing, sweats, extreme emaciation and anorexia.

It is surprising sometimes how little dyspnea we find, even though a large amount of pus is present. I have seen the clubbing of the fingers in empyema cases of long standing.



Fig. 2.—Method of draining thorax after rib resection. Solution of formalin in the bottle antiseptic and deodorant.

gotten and is of great diagnostic value. The former findings, I believe, should always be confirmed, if possible, by means of the aspirating needle, which, when properly used, is painless and harmless.

Gangrene of the lung arises from the same causes as abscess and is usually found in greatly debilitated cases. The kind of infection should always be determined when possible, because much will depend on it as to the prognosis, whether sterile, pneumococcus, staphylococcus, or streptococcus, or perhaps all three of these

organisms may be present. The character of the fluid has varied with different causes; localized or interlobular empyema has been surrounded by clear fluid with pus in center. Whatever the cause of the empyema, the entire pleural cavity is usually infected. In many cases there are no adhesions, and pus is allowed to circulate between the visceral and parietal pleurae. These are the cases in which we get almost immediate healing because the lung is free to expand after the fluid is evacuated. On the other hand, we may have dense adhesions and walled-off collections of pus in the pleural cavity, which may be multiple and difficult to drain.

Werner had a mortality of 41.05 per cent. in forty-two children under 2 years of age.

Dunlap, in a recent report, showed a mortality of 36 per cent. in thirty patients under 2 years of age.

In a report of 290 cases treated at Mount Sinai Hospital, New York, in the past ten years, the mortality was 18 per cent.

Contrary to the popular opinion, the metapneumonic empyema gives the best prognosis. We hear much about diagnosis of cholecystitis, appendicitis and various infections of fallopian tubes and the uterus, in which the mortality is less than 2 per cent. Don't you think it is high time that the profession should begin to

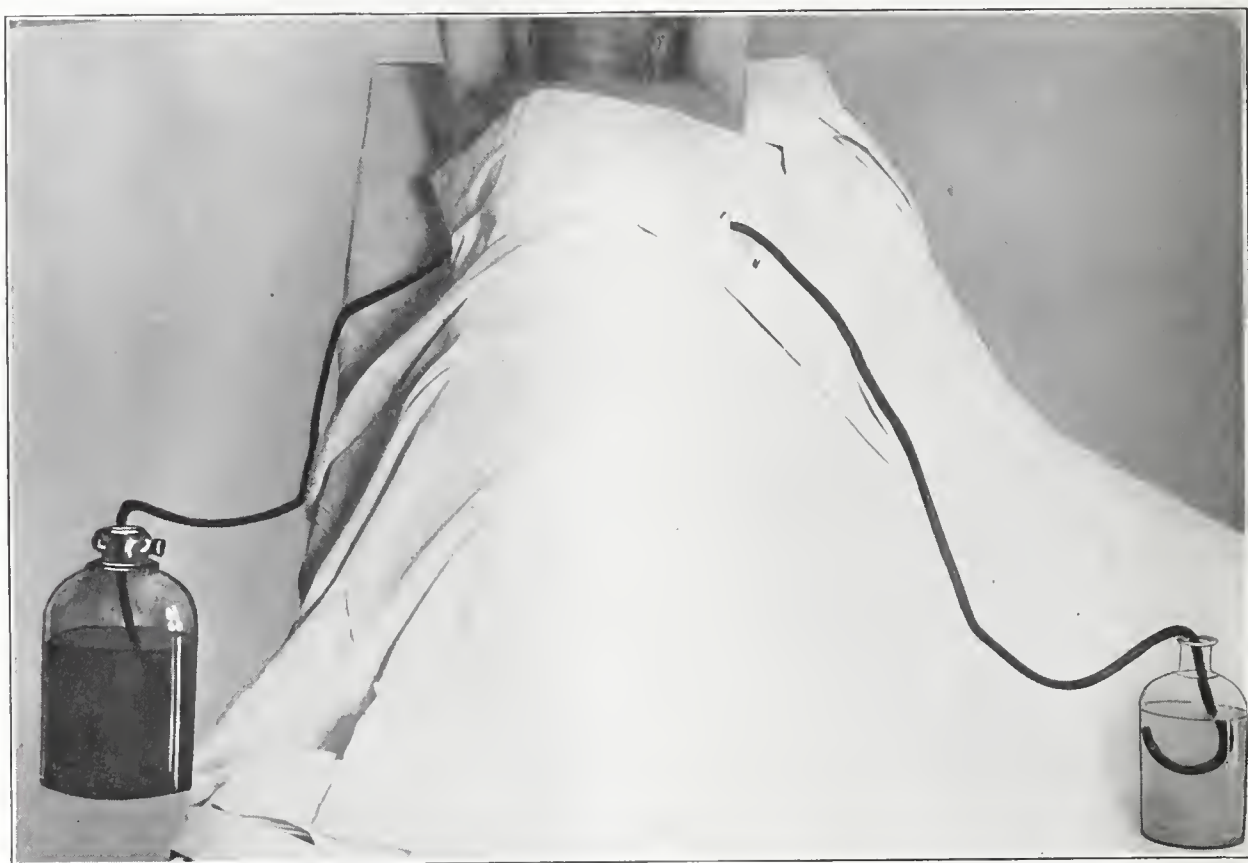


Fig. 3.—Case of bilateral empyema with resection and tube draining both pleural cavities at the same time, the fluid in the bottle preserves negative pressure.

Prognosis.—The mortality in empyema is exceedingly high. A study of the cases of seventy-five patients operated on at the Kansas City General Hospital since 1909, who were mostly adults, showed a mortality of 22 per cent. I have operated on twenty-five patients with two deaths. In the last ten patients I have operated on all under local anesthesia, without any deaths. One of these cases was a bilateral empyema, both pleural cavities being drained at the same time. Patient recovered after several weeks, and in six months had his usual good health.

Hirano, in his recent report, shows 50 per cent. mortality in adults and 15 per cent. mortality in children.

discuss empyema and see if we cannot reduce this very high mortality? We must insist on an early diagnosis from the medical man, which will mean an early operation and a better prognosis.

As to treatment, it should be looked upon as an abscess in any other part of the body. It is a mistake to consider the bacteriology as the all-important factor. Every empyema should be opened and drained. These cases should be treated not only with the idea of mortality, but it should be remembered that an early diagnosis means a quick recovery and complete cure.

Many kinds of treatment have been employed, from a simple puncture to the resecting of many ribs. I believe the suction apparatus a logical

method because it performs two purposes—first, it drains the cavity, and second, produces hyperemia; but it has not been successful in my hands, because it is very difficult to provide an airtight dressing.

Robinson of Boston trephines a rib, screws in a small metal tube and connects his suction apparatus to this. One of the great objections to this method is the small opening which is required. One should not dispose of the free drainage for small openings and airtight methods if it is going to block the drainage. The method which has been most successful in my hands is as follows: An oblique incision is made in the axillary line or a little posterior, with the idea of resecting the sixth and seventh ribs; this is done under local anesthesia in adults and nitrous oxid and oxygen in children, always letting the patient come out from the anesthesia before opening the pleura, going down to the ribs, then injecting the periosteum, cutting the distal part of the rib first with an ordinary pair of bone forceps; then by means of a pair of forceps, made especially to insert under the rib, one is able to remove the portion with almost no discomfort or pain and without rupturing the pleura. If one should puncture the intercostal artery, it should be ligated before entering the pleural cavity. It is well to open the pleura last if you have an interlobular abscess; then insert your finger, release any adhesion that may bind the visceral to the parietal pleura, insert a double tube or single, whichever you desire; if you have an interlobular abscess, it is well to stitch the parietal to visceral pleura before draining the abscess. It has been my custom to use the double tube, because it insures constant drainage, seldom both tubes becoming plugged at the same time. Close up this incision with silkworm gut, being sure to anchor your tube with a permanent stitch to the skin. The first rubber tube, which should be about six inches long, is connected by means of a glass tube with another rubber tube, the distal end of which is placed in a large bottle, partially filled with a 2 per cent. solution of formalin. The dividing of the tube is another precaution taken to prevent unnecessary pull from displacing the tube which has been put in the thorax.

By this method, the dressings are kept dry, also the bed; the fumes from the formalin keep down all odors, which are very offensive in cases where there is very copious drainage, and the fumes from the formalin also no doubt travel up the tubes and act as a germicide. With this method it is not necessary for the patient to confine himself entirely to bed, but he can take his bottle and go from any part of the house or hospital, or while in bed, he can turn in almost any position and still have free drainage. It is

purely a siphon method where the tubes act as the carrier of pus while the distal end immersed in the solution prevents the intake of air and preserves a negative pressure. This method can be employed in or out of the hospital, and results have been excellent.

With the large opening into the thorax, and free drainage, we have almost done away with the chronic empyema. In the chronic cases of empyema, the treatment par excellence is the decortication after the method of Delorme of France and Fowler of this country. In this class of cases, the lungs lie in the posterior thorax and are bound down by adhesion. The operation frees the lung which is held down; this allows it to expand and come up in close proximity with the ribs, which is opposite to Estlander's method of cutting away the ribs and allowing the chest to collapse down to the lungs. I have performed the decortication operation in two cases, adults, with no mortality.

Delorme's method is applicable to both sides; on the left one should go farther behind. O'Dowd reports excellent results with this method in children.

CONCLUSIONS

1. This is a disease which is most common between the ages of 3 and 10 years, and in every walk of life.
2. More mistakes are made in diagnosing this than any other class of pus formation.
3. Much depends on an early diagnosis and early operation as to cure.
4. Classification: acute, subacute and chronic.
5. The siphon treatment with free drainage cures all cases of the first class, most of the second type, but none of the third.
6. There is only one anesthesia—in adults, local, and in children, nitrous oxid and oxygen.

900 Rialto Building.

DISCUSSION

DR. F. H. SPENCER, St. Joseph: Dr. Poorman's handling of the subject has been the more appreciated because it is a subject which has been greatly neglected by the majority of surgeons, especially in America, yet it is one of the most distressing diseases with which the medical profession has to deal. When Dr. Poorman quotes a mortality rate of 22 per cent. in operative cases it shows that our mortality is higher really than in other conditions with which we have to deal, for if the mortality rate is 22 per cent. in this condition following operative work, our rate must be very high in those cases in which we have operated and have had to face the music, maybe two or three times a day in talking to them. I dare say there is not a man in this room who has done any amount of surgery who cannot recall from one to half a dozen of these old cases and he hates to see them worse than he does a neurasthenic.

There is just one thing that I wish to emphasize, and that is the use of the hypodermic needle from a

diagnostic standpoint. We cannot say how valuable this is to the surgeon or to the diagnostician and we know that we cannot make a diagnosis in a great majority of cases unless we do use this method; if by using it once you do not find pus, do not hesitate to withdraw the needle and reinsert it several times if necessary. The roentgen ray is very valuable and gives us a very good picture, as shown by the doctor.

In the acute cases, of course free drainage is the treatment to be pursued as soon as the diagnosis is made. I have had great hopes that the Murphy treatment would prove very valuable in these cases and reports from Dr. Murphy himself have given us this hope. My experience has been very limited with this method of treatment but I am very much afraid that it is not going to prove what Dr. Murphy claims for it.

In regard to operative work there is just one thing that I wish to emphasize, that is free drainage by removal of the ribs. In the old operation Kocher lays great stress on this; he says drainage is better and your results are better than by continuous aspirations. In Schede's operation and the Estlander operation the results have not been good; the deformity really is too great for the good that is derived from the operation. There is another question, which operation is the best, that of Fowler or that of Ransohoff, or the two combined? I was surprised that Dr. Poorman did not bring out the Ransohoff operation, that is, making the gridiron incisions in the pleura on the lung. Now this operation of Ransohoff is in a great many cases to be combined with the Fowler operation. The doctor says the Fowler decortication is the proper operation. I will agree that it is in some cases, but there are many cases where it is impossible to decorticate thoroughly, consequently you may have to do the Ransohoff operation to get perfect results.

Nothing was said about bismuth paste. I mention bismuth paste only to condemn it. Beck lays great stress on this method of treatment, but it has not given good results in my hands.

There has really not been enough attention paid to the Fowler and Ransohoff operations. There is no question but that it is the ideal operation in these old, chronic cases with sinuses; the Fowler operation, with the Ransohoff operation to fall back on in case you are not able to decorticate thoroughly.

DR. L. J. DANDURANT, St. Joseph: It seems incredible that a disease which was so well known in the time of Hippocrates is so often overlooked at the present day, in spite of the advantage of the advanced methods of diagnosis that we now have at our command. A mortality rate of 22 per cent. was given for the operated cases of empyema. I will venture that the mortality in the nonoperated cases is very much greater; when we realize this and are on the alert so that we will diagnose all of these cases of empyema which follow acute pneumonia, and institute the proper treatment early, then, and not till then, will the enormous death rate attributed to this disease decrease.

The method of verifying the diagnosis by the introduction of the aspirating needle is, as the doctor has said, not at all dangerous when properly done. However, with the definite symptoms which follow a pneumonia indicating a developing empyema, I do not believe we should hesitate, even though this test is negative, to open the chest wall and make further exploration, for there is an encapsulated form of empyema which your needle will not always find. When the symptoms are steadily progressing, the patient showing evidence of increasing toxic absorp-

tion, I think we are justified in going further into the cavity and exploring for the encapsulated pocket.

I was very glad to hear the doctor state his preference for local anesthesia. In the clinics of Europe local anesthesia is used almost exclusively in these cases.

I believe the siphon drainage is an excellent method in those cases which are advanced so far that it would be dangerous to make the more radical operation of resection of the ribs; a mere thoracentesis and the insertion of a small drainage tube and siphonage will tide such a patient over until he can stand a more radical operation. The great necessity in these cases, as in all abscess cases, is to remove the pressure of the pus. When you remove the tension you reduce the danger of absorption; the siphon drainage accomplishes this end very nicely. It also obviates the danger of evacuating the pus too rapidly and thereby producing serious shock; a very important consideration in these cases.

DR. C. B. FRANCISCO, Kansas City: There is one point that I think is important in regard to this resection of ribs in children, a point that I think has been overlooked by the general surgeon. That is the fact that lateral curvature will often follow this procedure. Those of us who are interested in orthopedics are constantly struggling with patients who have had ribs resected, we feel sometimes indiscriminately. It has been the habit at the Children's Mercy Hospital in Kansas City to advise the simple drainage operation which the doctor just preceding me spoke of. Very frequently these cases will clear up. Of course these children are where they are watched absolutely and no chances are taken, so if they are not doing well the rib resection can be done. My experience has made me feel like preaching conservatism in dealing with this condition in children because it is a deformity that goes on oftentimes to bony change, is rather difficult to manage and requires long, tedious treatment, and oftentimes can be avoided by the simple drainage operation rather than the resection.

DR. W. T. ELAM, St. Joseph: There is only one point that I want to speak on, and that is the question of mortality. We have all had cases in which we drained and which we thought we drained thoroughly, and perhaps we did. In this connection, I will say that an early diagnosis is very important. One of the reasons why we have a large mortality is not owing to the fact that we have pus in the pleural cavity or, perhaps, in the lung tissue; it is what oftentimes we would see if we followed these patients to the postmortem table, that there is also a purulent condition of the glands in that region and that that particular area of infection is not, as a rule, drained. It is rather hard to drain that area, and for that reason, if for no other, we are very likely to have a fatal outcome in cases of empyema in which we are called to operate. That is one of the reasons why the mortality in this particular condition is extremely high.

It has been said that we are not so far advanced in handling these cases as we are in handling suppurative conditions in other parts of the body. That is true. The reason is that we are not always able to follow our cases to the postmortem table. If this ever becomes possible, at some future time, we shall find some way to drain these abscesses or pockets that form in and about the hilum of the lung as we now drain purulent accumulations in the pleural cavity and intralobular abscesses.

ADDRESS OF THE INCOMING PRESIDENT
OF ST. LOUIS MEDICAL SOCIETY*

LOUIS C. BOISLINIERE, M.D.
ST. LOUIS

In accepting this gavel from you, our retiring president, I feel that the pace you have set and the work you have accomplished will be hard to follow or to equal, brought about as it was by a true Teutonic efficiency but humanized by a warm Celtic heart and administered with an innate American sense of justice and fairness. Your beautiful and touching reference to my revered father, who occupied this chair in 1878, has utterly overcome me, and I can only say for myself, *Sequiturque patrem haud passibus aequis*.

Members of the St. Louis Medical Society,
Ladies and Gentlemen:

The members of the St. Louis Medical Society have chosen me to be their chief executive officer for the year 1916. It is the highest honor that the medical profession can confer on any man, and deeply appreciative am I of this mark of esteem and confidence which my confrères and colleagues have bestowed upon me. The honor has been conferred but it remains for the future to determine whether or not it will be merited. The responsibilities are great, the rewards of success are great, but the ignominy of failure is terrifying. Can you wonder, then, that I approach the duties of this office with faltering step and fearsome trepidation as one entering a holy of holies with bowed head and humble heart, pleading, aye begging, for assistance and your loyal support. I know that I come to you with open mind, neither trammelled by the yoke of any man nor enmeshed in tangled alliances of any kind, and with willing heart eager and ready to give you the best that is in me. I have no illusions or misconceptions as to my own limitations and I know therefore that I absolutely depend on the cooperation of each and every individual of this organization to attain even a modicum of success. The policy of this administration in so far as your president can shape it, shall be to inculcate and drive deeply into the minds of each and every one of you that this is your society; its responsibilities are yours, its failures and successes are yours; that its integrity, solidarity and efficiency can be established, maintained and enforced only by every member fully realizing his proprietorship in it and his consequent obligations of continued and united efforts in its behalf.

The systematic methods of efficiency installed by the last administration shall be continued and extended. Under this system every detail of the affairs of this society, every expense and expenditure, is subjected to the utmost scrutiny, every proposed measure is carefully weighed before being acted upon. In fact, all the safeguards of modern methodical business methods now prevail and will be continued without abatement. The maintenance of these buildings, the general management of the society, the library with its 15,000 volumes and innumerable journals, the Bartscher Fund, the attitude that we should adopt, and our active participation in public health and legislation, are some of the things you have asked your officers and committees to so direct and conduct that the best results may be obtained.

In entrusting to this society the munificent bequest of more than \$40,000, Mrs. Bartscher has honored us and herself and has established in perpetuity a memorial to her son more lasting than brass, a vital, sentient, ever active force for the good, a constant and befitting reminder of a loving mother justly proud of her son and his noble profession. May her action inspire and stimulate others to likewise crystallize their love or their gratitude into a similar ever radiant gem of beneficence and usefulness. It is a sacred trust and sacredly shall it be administered in the future as it has in the past. Let the courage, devotion and wisdom, with which your committee in the past year so jealously cherished and zealously safeguarded this charge, be an earnest of the security which will always encompass it and similar funds that may be entrusted to our care. The society certainly owes this committee a debt of deep gratitude.

The duties and responsibilities you have asked your officers and committees to assume are heavy and will require self-sacrifice, financial loss and expenditure of great personal effort on their part; these they unstintingly will give you; but in return they demand, as they have a right to do, your full cooperation and loyal support. Undoubtedly some mistakes will be made but you may rest assured that they will be mistakes of judgment and not of heart.

It is our duty at all times and in all places to drive home and deeply into the minds and hearts of our fellow citizens the fact that the practice of medicine is not a trade, but "a profession that has for its prime object the service it can render to humanity."

The wealth and happiness of society and every member thereof depend primarily on its health and physical well-being. As the cus-

* Read at the annual meeting, Jan. 8, 1916.

todian of these the St. Louis Medical Society is the most valuable asset that this community possesses. The conception of our duties to the whole body politic must never be obscured or limited by exaggerated though narrow ideas of our own individual importance, to the end that the citizens of St. Louis and state of Missouri will recognize in us an earnest, active body of men, who have always been and are influenced by the highest altruistic motives and whose self-abnegation has always caused them to disregard their self-interests in furthering and actuating their ideals, and in fulfilling what they know to be their duties and obligations to society. We have the right to command the confidence and demand the cooperation of the intelligent public in our efforts in their behalf. It behooves us, therefore, to make ourselves felt in this community, to create and encourage measures that will improve the health and consequent effectiveness of our citizens, to oppose with adamant firmness and by all just means available, the efforts of those who would foist on the public vicious health and medical legislation. In fulfilling this our highest function, we, as a body, should court the utmost publicity. We are not a coterie of cloistered clerics, a selfish, self-adulatory complacent collection of smug scientific egotists, but a live, virile, active body of educated and specially trained men, nearly 1,000 strong, whose influence reaches, directly or indirectly, nearly every citizen of St. Louis, and who come in contact daily with tens of thousands of people who look to them for honest and efficient advice. What a tremendous power for good, for social, moral, sanitary and civic betterment it can wield if unified in harmonious effort.

In fulfilling our obligations to one another our prime object is to subserve medical St. Louis; and medical St. Louis is something to be proud of. No city possesses better hospitals, better medical colleges and specialized clinics, any more earnest and successful scientific research workers and practitioners of medicine. In no city is there better conducted public institutions than our City Hospital and its allied institutions, whose inmates receive the gratuitous service of the best medical talent in our midst. Medical St. Louis easily ranks with medical New York, medical Boston and medical Baltimore. There is nothing known to the art and science of modern medicine that cannot be carried out here as adequately, as effectually and as successfully as anywhere in the world. Is it any wonder, therefore, that St. Louis, the postgraduate school and medical center of the

Mississippi Valley, is fast achieving a national repute in matters medical second to no other commonwealth? Knowing these things why not boost them—because, forsooth, some one member of our great private or semipublic institutions happens to antagonize you, do not condemn the institution, the rest of its corps, and belittle their work. Remember that they are as earnest, as honest and as honorable as you are. It is in the halls of this medical society that the representatives of these varied medical interests come in contact one with the other and with the profession at large. One and all must know that this is their clearing house, where all may meet on an even footing for the interchange of ideas. To us, then, you must bring the first fruits of your medical research and studies and the ripe results of your practice and experience, so that the same standard of high excellence will obtain this year in our scientific symposia as it has in the past.

The family is the unit of the community and the object and end of civilization is to safeguard its rights and to conserve and preserve its integrity at all hazards, knowing full well that family disorganization means communal and civic destruction, chaos and disorder—so the St. Louis Medical Society is the family of the medical profession and must be the object of its tender solicitude, of its unswerving devotion, so that peace, harmony, order and efficiency will prevail in its ranks and its higher duties and efforts will find their most effective expression.

No matter how many other scientific or special organizations you may be connected with, no matter how many or how great your professional duties may be, remember that this is your family and your first allegiance is to it.

I care not whether you are just entering on the threshold of your life's work, or whether you have attained the full measure and acme of professional success and renown, I bid you to remember that it is because of the high ideals and standards of purity, honesty, integrity and professional efficiency erected by this society on inception, and maintained with unfaltering courage ever since, that you owe absolutely and unequivocally your standing in the community, your success, aye your very existence as an honored member of an honorable profession.

Organized medicine is essentially democratic. There is and there should be no aristocracy, no oligarchy—the lowliest member has his equal rights, and knowing them must dare assert them. The medical profession is recruited from

the various ranks of society, with their various traditions and vague concepts of professional duties and obligations. Now, organized medicine is, as it were, the melting pot in which all these heterogeneous concepts of medical life, its duties and its rights, are freed from their baser tendencies and fused with higher, nobler ideals into an indissoluble amalgam.

However great the traditions and history of this society, pregnant as they are with the names and deeds of men whose impress will continue ever to be felt, I tell you that there is in the making more history today, this very day, than ever before in its long, effective and honorable career. It has outgrown its swaddling clothes and has attained the full vigor of its virile maturity. The wise but astute Homan, first perceiving its restive, struggling efforts in its confined circumspection, measured for it a larger and more befitting investiture. And this body, feeling its puissant potentialities, has ever since continued this constructive work under the direction of its devoted officers; and, guided by the master hands of Morfit, Tuholske, Nicholson, Schwarz, Schlueter, Amerland, Behrens, Koetter and Kane, it stands today armed *cap-a-pie* in the arena of its greatest opportunities, equally ready for offensive or defensive activity.

Time was when the medical profession could sit safely entrenched in complacent security, unruffled by external assaults of any great gravity, when their chief concern was the adjustment of their own internal interrelationships.

Time is, as never before in its history, that ever increasing onslaughts of growing magnitude are daily launched against its very vitals. Full well it is, then, that the leaders I have mentioned, sensed the danger from afar, and by the united efforts of this intelligent body and its devoted officers have effected a sane and safe preparedness, a solidarity and cohesion that will enable it to assume an aggressive initiative in all its tactics of offense and defense. I sound the tocsin of alarm and call to the colors all properly equipped practitioners of medicine who are honest in their work and who have the welfare of their profession and the community at heart.

For be it known that membership in this society is at once a badge of honor and an insignia that those who wear it have the courage of their convictions and are dominated by the highest sense of consequent noblesse oblige; that those who are not with us are open to the

suspicion of luke-warmness or timidity, if not of antagonism to those principles in the adherence to which alone lies the preservation and propagation of all that is honest, all that is philanthropic, all that is truly scientific, all that is worth while in the study and practice of medicine. The enemies of organized medicine are equally the enemies of organized society.

Is it wonderful, therefore, that the combined attacks of these unscrupulous and anarchistic foes are shrewdly directed against this, our citadel, yea, the very temple which contains the golden arc of our sacred covenant, the principles that guide us in our every professional act; knowing full well that they are the marrow of our strength, the essence of our hopes, the substance of our effectiveness.

But absolutely speaking there is no such thing as a code of medical ethics, if you mean by it a congeries of petty, arbitrary rules manufactured solely for the purpose of establishing tyrannical authority and to foster the material welfare of its adherents—no! But if you mean by the principles of medical ethics proximate rules to guide us, as physicians, in our actions toward ourselves, toward our patients, toward the community—rules every one of which, following the dictates of right reason, is based on simple elemental justice and makes for the acquisition and practice of the virtues of justice, temperance, fortitude and mercy in our medical activities—then there are principles of medical ethics, a code to which every decent, honest, self-respecting physician and every intelligent citizen must needs subscribe.

There does exist an external, preexistent, immutable moral order which constitutes the basis of all true ethical and moral laws, and, on the observance of which depends the harmonious relationship of all reasoning, free-willing beings one with the other, and enables them to carry out the designs of an all-wise Providence. It is given to no creed, no religion, no nation, no congregation of men, to invent or manufacture morals, but it is their highest duty to rightly interpret and enforce them.

Medical ethics is simply basic ethics as applied to the doctor in his private and public medical work and which constitute his proximate guides to action; and you have delegated to this society the authority and right to interpret and enforce them. It is therefore your duty as members of this organization to carry out its enactments and obey its mandates in this regard.

The St. Louis Medical Society is too big and too generous to deal pusillanimously with its members, knowing full well that it is human to err. Strictness is not synonymous with severity; but when a basic moral medical principle is vitally threatened or utterly disregarded there

can be no compromise and the full penalty, within the law, shall be adjudged.

The strictest interpretation and observance of these medical standards requires only that, in your professional relationships, you always bear, *sans peur et sans reproche*, the grand old name of gentleman—and thus the dignity of your learned profession, with its responsibilities and sweet rewards, your duties toward yourself and toward humanity, as well as the objects and the ends of organized medicine are amply and adequately subserved.

3544 Washington Avenue.

UNILATERAL RENAL HEMATURIA *

C. M. NICHOLSON, M.D.
ST. LOUIS

Renal hematuria may be brought about by gross breaches in the continuity of the vessel wall, or may occur in capillary vessels, without breach of continuity, through the interstices of the wall.

The former may be arterial or venous and may be brought about by trauma, disease and weakening of the vessel wall and by grave alteration in the relation of the pressure acting upon vessels from without, and the blood-pressure within the vessels, and lastly, by a combination of these causes.

Hemorrhage from the capillaries and venules takes place as a result of active or passive congestion. It is generally held that the passage of blood elements occurs between the endothelial cells by expansion of the bridges and spaces between those cells.

Renal hematuria may be classified according to its etiology under three heads:

1. General infections or toxic influences.
2. Local causes.
3. Unrecognized causes.

In the first group may be included nephritis, tuberculosis (except primary), leukemia, purpura, scurvy, tabes, infectious diseases, action of certain drugs, pregnancy, lactation and angioneurotic hemorrhage.

In the second group may be included new growths, primary tuberculosis, stone in the kidney, hemophilia, hydronephrosis, aneurysm of renal artery, thrombus or infarction of renal vein, movable kidney, trauma, uronephrosis, parasites, prolonged muscular exercise, varicose condition of veins of renal pelvis, and varicose condition of veins of single papilla.

In the third group may be included all cases in which the cause cannot be determined.

The consideration of causes enumerated in the first group, because of producing bilateral

hematuria, are excluded from our consideration by the title of this paper.

The consideration of causes enumerated under the second group presupposes cystoscopic examination and ureteral catheterization, by which procedure the source of the bleeding has been limited to one kidney.

The term essential hematuria, which has been used to indicate cases here classified in the third group, is omitted, as being misleading and evidencing a lack of pathologic investigation.

Keen cites a case in which a kidney removed by Nickolish, in Vienna, was pronounced normal. Later, in Paris, Albarran and Motz found marked evidence of glomerulonephritis.

Renal hematuria from new growths occurs in about 10 per cent. of benign and 71 per cent. of malignant tumors. The bleeding is spontaneous, independent of exercise, may be very large in quantity, and lasts an indefinite length of time. Casts of the ureter are not uncommonly found in the urine.

Renal hematuria from primary tuberculosis begins as a deposit of tubercles in the cortex or base of one of the pyramids and is due to ulceration; hemorrhage, small in amount, not influenced by exercise; pus and tubercle bacilli are found in the urine.

Hematuria from renal stone is caused by mechanical irritation; gross breaches are produced in vessel walls. Bleeding usually subsides following rest. Radiographs clear the diagnosis in 95 per cent. of cases.

Renal hematuria from hemophilia is rare. Other evidence than hemorrhage from a single organ and family history is necessary for a diagnosis.

Hematuria from hydronephrosis is comparatively common, probably due to interference with circulation of the kidney, causing intense venous congestion.

Hematuria from aneurysm of the renal artery follows active congestion of the kidney, resulting from increased blood supply.

Hematuria from thrombus or infarction of renal vein results from passive congestion.

Renal hematuria from movable kidney has been observed and is believed to be due to congestion—a result of kinking of the renal vessels. Fixation of the organ is the logical treatment.

Renal hematuria from trauma may continue until the kidney is removed, whether the injury is such as to cause complete rupture or only slight damage.

Hematuria from uronephrosis is presumably caused by secondary congestion.

Hematuria from parasites occurs in the tropics and subsides when the patient is removed to a temperate climate. Among the parasites more frequently observed are *Distomum hamatobium*, *Filaria sanguinis*, *Strongylus gigas*,

* Read at the Fifty-Eighth Annual Meeting of the Missouri State Medical Association, St. Joseph, May 10-12, 1915.

and *Nephrophages sanguinarius*. The first two named produce at the same time chyluria, the last named, fibrinuria.

Hematuria from prolonged muscular effort is observed as a result of long-continued horse-back riding or mountain climbing. It ceases following rest and recurs only as a result of a repetition of the exercise. The hemorrhage may be considered as resulting from congestion of the kidney.

Hematuria occurs from a varicose condition of the veins of the renal pelvis.

Hematuria from a varicose condition of a single papilla has been described by Fenwick, Whitney and Cabot. The hematuria is usually profuse and lasts indefinitely. The plexus of minute veins at the apex of each papilla may, under conditions not well understood, become enlarged and bleeding may follow. While absence of symptoms, except hemorrhage, may be a reason for suspecting capillary nevus, a diagnosis can be made only after exposure of the renal pelvis.

The case which I here report belongs to the last-named class.

Mrs. R., aged 24, married, two children; admitted to the Rebekah Hospital, Jan. 7, 1912, complaining of blood in the urine, which had continued for eighteen months. The urine has been cherry-colored fifteen months prior to December, 1911, since which time it had been a bright red.

The patient was profoundly anemic and had, at times, experienced slight pain in region of right kidney. Manual examination revealed no enlargement of either kidney. Radiographs showed both kidneys normal in size and position. Urinary findings were negative, except blood. Cystoscopic examination of bladder showed a bloody urine flowing from right ureter.

January 12, a right lumbar incision was made, the kidney delivered, the renal vessels compressed, an incision made from the upper to the lower pole and the pelvis exposed. A bunch of varicose veins were seen at the apex of a papilla, near the lower pole and removed. The kidney pelvis was packed with gauze strips and the opening was filled with gauze tightly packed, which was removed the second day, though the gauze strips were allowed to remain until the fourth day.

After removal, urine flowed through the wound, freely at first, though gradually lessening until the end of the third week, after which time the opening closed. At no time after the operation was blood noticed either in the urine draining through the wound or that which was voided.

Patient was discharged well, and reported a year later that she had gained 12 pounds in weight and experienced no return of hemorrhage.

4500 Olive Street.

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DISCUSSION

DR. WM. J. FRICK, Kansas City: I believe a thorough study of the average case together with our present methods of diagnosis, such as the cystoscope, the Roentgen ray, microscopic examination of the urine, in many cases ureteral catheterization, will enable us to determine the cause. I mention the cystoscope first. To me, the cystoscope is probably of the greatest importance in the diagnosis of these cases. In the first place, it will immediately let us know which kidney is bleeding; at the same time it will let us know the condition of the opposite kidney and whether it is performing its duty or not. Next comes the Roentgen ray, which is of very great importance in the diagnosis—that is in finding the cause of the bleeding. It will also immediately let us know whether one of the common causes of renal hemorrhage is present or not and show either presence or absence of stone in the kidney. It also may show whether or not a tumor is there and I believe it sometimes gives us an idea of a tumor of the kidney. In tuberculosis of the kidney it is of more or less importance; it may possibly show caseous deposits in the kidney.

A good many cases of renal hematuria present no symptoms whatever except the hematuria. There may be no renal colic, no pain, no tenderness, no aching mass in the kidney region; the only thing we have to go on is the renal hemorrhage. Such cases make up the so-called "essential hematuria" class. There is one thing we can depend on absolutely—that a healthy kidney does not bleed. Fenwick of London has proved to us that there are causes for all these cases of renal hematuria. Chief among these causes he has given the renal varix. Another cause is passive hyperemia due either to pressure on the renal vein or a twisting of the pedicle; still another cause of hematuria is a small tumor in the pelvis of the kidney. Newman, in a very recent article in the *British Journal of Surgery*, says that already enough cases of renal varix have been demonstrated to lead us to consider renal varix as a distinct pathologic entity.

The diagnosis in all cases of essential hematuria is made only by exploratory operation; and if we have no signs or symptoms other than the bleeding, it should be first found out which kidney is bleeding. The bleeding kidney should then be explored by opening it from one end to the other and sometimes through its entire thickness to the pelvis in order to find the trouble. When we have so split the kidney we have also carried out the treatment which is recommended for this condition, the procedure of splitting the kidney wide open and sewing it up again. Just how this acts has not been made clear, although Spitzer, who has had a dozen or more cases, says it reduces the increased arterial pressure to more nearly correspond with the diminished venous supply and in that way diminishes the venous outflow thus reducing the congestion.

DR. L. T. DUNAWAY, Eldorado Springs: I wish to relate a case of hematuria that I worked with for about eighteen months. I did not have any means by which to examine the urine, or a cystoscope. I sent her urine to Columbia to be examined and I received the report that nothing was wrong except the blood. I dabbled along with that case for some time and finally found that there was a little fine sand in the urine. I went to work to find something to dissolve that sand and I was about twelve months doing it. During that time she conceived and bore a healthy child, but passed much blood every day during the whole time. I gave her everything that had been recommended for this condition or that I had heard

of, and I finally concluded that if I could stop the sand I could stop the hematuria. At last I put her on nitric acid, three drops three times a day, in about three or four weeks she was cured. In a similar case the woman became weak and anemic from loss of blood lasting about fourteen months, and all the doctors about that part of the country had had her, one after another. They called me one day, saying that something had to be done, that I should send her to the hospital and look after her. The husband had been gathering cherries that day and had a table out in the yard under a tree. While we were in the house talking, a little boy climbed on that table and fell off. The woman saw it and was severely shocked. There was never any more bleeding from that time on, though she had had hematuria for fourteen months.

DR. JACOB GEIGER, St. Joseph: I wish to emphasize the remark made by Dr. Bode in regard to the many causes that may lie behind this condition. All causes, of course, have baffled us at times, and it is not possible in every case, by urinary examination, the cystoscope, or the microscope even, to decide just what is the matter. I have had three cases in the last five years, unilateral, which had persisted. All the cases had been treated medically by competent physicians without result. I operated and exposed the kidneys, and inspected them carefully without being able to find any pathology beyond some enlargement. In these three cases I split the kidney from one end to the other, putting in a couple of sutures of catgut and again replacing it and they got well. Just what this slitting does I do not know, but it certainly is the rational treatment. One of these cases, which I operated on five years ago, is perfectly well to-day, as also another one operated on three years ago and another twenty months ago. Two were in men between the ages of thirty-five and forty, men of good habits; the other patient was a woman of about twenty-six, also in good health with this exception.

DR. C. W. RUSSELL, Springfield: I wish to report two cases that I have had in the last eighteen months. One was a man 56 years old who had for three years been suffering from hematuria. Cystoscopic examination revealed blood coming from the left ureter and there was no tenderness and no pathologic condition in the urine other than that it contained a great deal of blood. At the operation I was unable to find anything the matter with the kidney and I did as Dr. Geiger did, I removed it. Upon section, after searching diligently, I found that in the apex of one papilla there was a very small concretion, not larger than the head of a pin, which it would have been impossible in the man's very anemic and cachectic condition, to have found and thus to have saved the kidney. In another case, that of a young man twenty-six years old who was an epileptic, the patient had bled for some fifteen months and was also profoundly anemic. There was no lesion that I could find in the kidney, either before or after nephrectomy. This case in particular I should think would come under the heading of angioneurotic kidney.

DR. C. M. NICHOLSON, St. Louis: I was glad to find that Dr. Mark and Dr. Frick agree with me that the term, "essential hematuria" should not exist. Since there is pathology in every case of hematuria, we should classify those cases where the cause cannot be determined under the third group.

As to the treatment, I am a little surprised at the large number of kidneys that have been removed to correct the symptom hematuria. I think removal of the kidney is illogical in these cases. Where, after careful examination, the cause cannot be determined, bisection of the kidney has had in most hands a definite curative effect and the kidney continues to functionate.

Hurst found that in cases of nephritis where he separated the capsule from the kidney, as he did in some cases of movable kidney, it seemed not only to overcome the bleeding, but to cure the nephritis. Therefore he decided that decapsulation was a better operation than bisection. It occurs to me that where no interstitial inflammation exists, when the pathology cannot be determined, since the symptoms can be overcome by a simple bisection of the kidney, an operation wherein the mortality is very low, it is certainly better than to do a nephrectomy.

BRAIN TUMOR; HEMANGIO-ENDOTHELIOMA; DECOMPRESSION; REMOVAL OF TUMOR; CURE*

WM. BRITT BURNS, M.D.
MEMPHIS, TENN.

This is a case of brain tumor, ordinarily of slow growth, the size of a small black walnut, presenting symptoms which began July 1, 1914.

He showed at first very mildly and faintly all the symptoms which were marked in less than ten days. He gave a history of having pains in the back and on either side of the head, worse on the left side; pressure sometimes seemed to elicit pain over the left frontal region and in front of the left ear. These pains were accompanied by dizziness at times. Both these symptoms increased rapidly, until they were almost constantly present and were latterly accompanied by vomiting with very little nausea. The pains were worse at night. Weakness of muscles, staggering gait, later accentuated by stumbling and dragging the right leg. A right handed person, he showed less grip in the right hand than the left. Right facial paresis, at first slight, became emphatic at last. Periods of insomnia were present, alternating with just as marked periods of somnolence. Slight deviation from the normal in olfaction and audition. A low grade optic neuritis (choked disk) was present in each eye, more marked in the left. These and other minor symptoms were sufficient to enable me to give the diagnosis of *brain tumor*, making pressure over the leg, arm, face and speech centers. Dr. Somerville believed the tumor to be in the temporosphenoidal lobe, making pressure upward against these centers. A Wassermann test was made by Dr. McElroy, which was reported as negative. It was thought worth the trial to administer mercury, thinking perchance the Wassermann might mislead. So three hypo-intragluteal injections of the salicylate of mercury (ampules) were given five days apart. The patient grew rapidly worse, the symptoms becoming more and more pronounced. The patient and his family urged an operation. Accordingly he was sent to St. Joseph's Hospital September 15, and operated upon September 18, at 8:30 a. m.

The case records of myself, Dr. Somerville and Dr. Ellett follow in the order taken.

CASE 1.—White, American, aged 39, weight 135, married. Family history: Father died at the age of 80; mother died at 55 from some kind of stomach trouble. Three brothers: one died at 37 of tuberculosis; one living, aged 40 and in good health; one 35, in good health; one sister living, 49, in good health;

* Read at the Fourteenth Annual Meeting Frisco System Medical Association, Springfield, May 24-25, 1915.

one died at 20 in childbirth. Habits: moderate drinker, smoker. Venereal Diseases: Gonorrhea at 25, lasted two years. General condition fair. Been working in city asphalt department four months; began handling creosote two months ago, when white spots came on face and hands, does not get sore or peel off. Four weeks ago pains in head, back and side, and with these pains vomiting appeared. Weak-

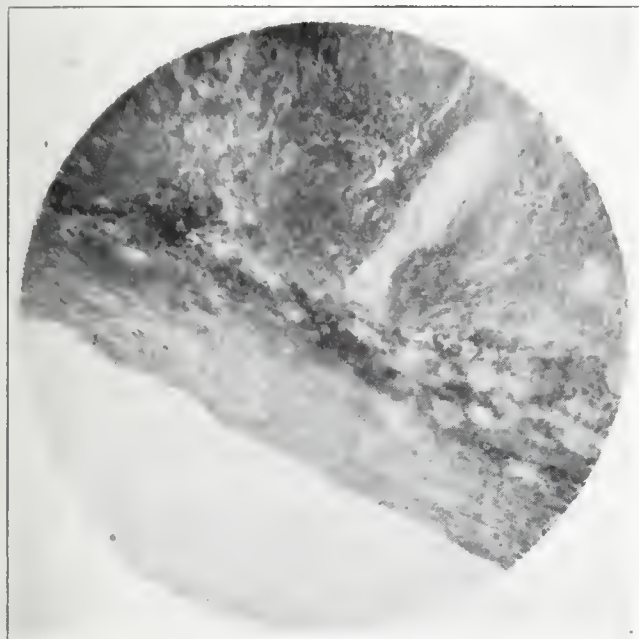


Fig. 1.—Showing well defined tumor capsule.

ness of the muscles and staggering gait came on. Some trouble in sleeping, sometimes wakeful at night and sometimes somnolent. Vomited blood several times. Greatly constipated. Examination at first visit appeared to show loss of patellar reflexes; this was not the case at second visit the next day. Practically no disturbance of these reflexes. Third office visit showed decided loss of power in right arm, leg and right side of face. Albumen 0, marked phosphaturia; microscopic examination showed urates, uric acid crystals. Urinalysis, reaction acid; spec. grav. 1.020; color amber; sugar 0, no casts.

Diagnosis.—Preoperative: Tumor over leg, arm, face and speech centers. Treatment consisted of decompression. Postoperative diagnosis (microscopic): Dural hemangio-endothelioma (Brooks), by Dr. Burns.

CASE 2.—Mr. F. W. P., aged 39, stationary engineer by occupation; married, one child, wife has had no miscarriages. Family history: Father died at 80; mother died at 54; one brother died at 28 of pulmonary tuberculosis; two brothers living in good health; one sister died at 20 after childbirth; two sisters living in good health. Past history: Denies luetic infection, and has had good health previous to July, 1914. Present attack began about July 1, 1914, having headaches and dizziness, not constant but occurring at intervals, becoming more frequent, and two weeks later accompanied by vomiting. The headaches have increased in severity and frequency until now he has headaches nearly constantly, with exacerbation about every three days and worse at night, being at times almost unbearable. The pain seems more severe in back of head and at times in right or left frontal region. His wife states that for the past six weeks previous to September 2, there has been considerable loss of memory and confusion. During this period

he has complained at times of diplopia; and he has lost 20 pounds in weight.

Sept. 2, 1914, neurologic examination: Patient appears dull, talks very little, replies very slowly to questions and frequently cannot find the word, or else uses the wrong word. There is a partial motor aphasia, he seems to understand what is said to him, and there is no auditory aphasia evident. Sense of smell is not impaired, except possibly not so good on left side as right. Subjective noises in right ear, and hearing little if at all impaired. No loss of sensation. Motor power of right face slightly less than left; right arm less than left arm; and right leg slightly weaker than left. At times there has been some cramps and slight twitching of right hand. Dynamometer shows pressure of right hand 40 kilos, left hand 50 kilos. (The patient is right handed.) The tendon reflexes of arm are present, and right, slightly greater than left; those of knee and ankle are present, and brisk, right greater than left. There is no Babinski or Oppenheim's signs. The eye ground showed a slight optic neuritis, left greater than right. Pupils reacted to light and accommodation; left slightly larger. Wassermann negative. When examined again September 15, about two weeks after first examination, the dynamometer showed right hand 38 kilos; left 51 kilos; and he is inclined at times to drag right leg. Aphasia more apparent. (Dr. Somerville.)

Sept. 15, 1914. Mr. P., aged 38, right pupil a little larger than left, both react. The eye grounds show a low-grade optic neuritis in each eye, more marked in the left. Charts of fields are attached. Vision, right eye 20/30, left 20/20. Oct. 12, 1914, pupils 3 mm. equal and react. The left nerve is perfectly normal, but the right is still a little swollen, especially to the nasal side. Vision, right 20/30, left 20/20. Visual fields normal. (Dr. Ellett.)



Fig. 2.—Showing blood-vessels with fairly wide lumina around the blood-vessels and infiltrating their walls and many cells, giving the appearance of alveolar arrangement.

Operation.—The patient came to operation with head shaved. An incision 3 inches long and down to the skull begun, midway between the two horizontal orbital lines of Krœnlein and extended vertically upward to or a little above the inferior temporal ridge. Thence immediately backward on a horizontal line the incision was carried 3 inches further; thence immediately downward in a perfectly vertical line

3 inches. The pericranium was loosened about half an inch along each leg of the incision. The small bit of Hudson's trephine was employed in opening the skull, one opening at each upper corner of the incision; these were connected by a Dahlgren biting forceps; the vertical legs of the incision were accomplished in the same manner. The lower end of the bone flap-to-be was narrowed by a nick, a bite of the forceps, and then easily fractured and turned down the scalp.

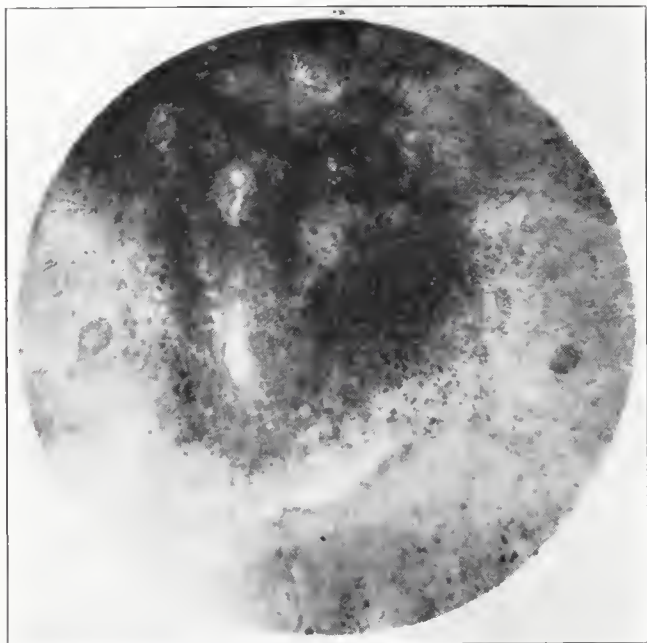


Fig. 3.—Showing clumping of old blood pigment, fibrin and disintegrated red blood cells.

The dura was markedly tense but was pulsating. No evidence of the tumor was visible. The dura was then cut in a similar manner as the bone, with the exception that the horizontal incision was about half or three quarters of an inch lower than the bone. This was done to avoid sinuses and to better hold sutures. When the dura was cut, the pia was injured slightly on the upper and front lines of the incision and the appearance at these points seemed to show some brain softening, and the brain substance was a little more yellow than gray. The tumor was immediately found protruding in the lower front corner of the window. The first appearance was that of the end of a piece of coat braid of a deep maroon color; this proved to be a tail of the capsule of a tumor about the size of a small black walnut. My left index finger skirted the tumor by pressing hard against the concavity of the skull, between dura and pia, and it was easily and quickly hulled out. A folded piece of rubber tissue (not gutta purcha tissue) was carried down to the bottom of the bed of the tumor and brought out in a nick in the bony flap and all closed, the dura having been laid back in place and stayed with three or four catgut strands. Silkworm gut sutures were placed in scalp. Moist gauze was placed over the wound, a combination gauze dressing and caprine bandage applied. Second day his facial expression was better; fourth day he sat up in bed and lighted and smoked a cigarette, wrote his name and address. Fifth day he rolled, lighted and smoked a cigarette (did not spill any of the tobacco); prior to the operation had not been able to roll a cigarette without wasting half sack of tobacco. Seventh day walked around in the room. Tenth day dressed himself, walked out of the hospital and went home in an automobile, walked from auto to his door. Octo-

ber 3, beginning to read; read morning paper and with more intelligence, saying nearly everything. October 9, reading and writing and talking as good and as intelligently as ever in his life. Going about without assistance or surveillance.

The microscopic section was cut and stained by Dr. H. T. Brooks, Pathologist, University of Tennessee, whose report follows: "Tumor of brain, specimen of Dr. W. B. Burns. Description in gross: Size about that of small walnut. Consistency is fairly firm. Color is dark. External surface somewhat irregular. Definitely encapsulated with a thin connective tissue capsule. Section through middle shows the presence of tumor tissue with here and there a dark color. Microscopic examination: Tumor shows blood-vessels with fairly wide lumina, around the blood-vessels and infiltrating their walls were very many cells, giving the appearance of an alveolar arrangement. Morphologically these cells resemble the endothelial cells. In certain areas of the specimen is seen old blood pigment, fibrin and disintegrated red blood cells. This is responsible for the melanotic appearance of the tumor.

"*Diagnosis.*—Hemangio-endothelioma. In this particular case probably more correctly called hemangio-perithelioma for the reason that the cells of the tumor took their origin from the endothelial cells of the pvascular lymphatics."

Some years ago it was customary to classify all the tumors, which did not fall under the head of the well-recognized tumors, as endotheliomata; for instance, cylindromata, which although of various origin—epithelial, mesothelial and mesenchymal—have one common

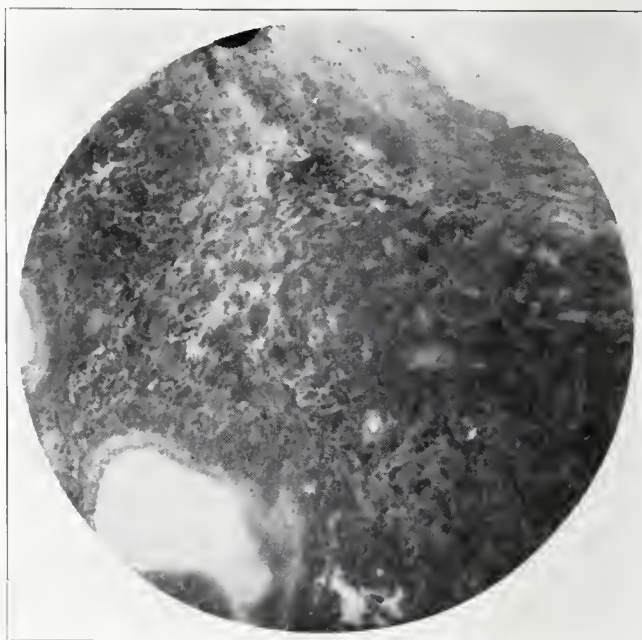


Fig. 4.—Showing capsule, fibrin, disintegrated red cells and old blood pigment and blood-vessels.

characteristic of producing round and cylindrical masses, either by cell secretion or by hyaline transformation of vessel walls.

Endothelial cells normally line blood and lymph-vessels. Cells lining the pericardial, pleural and peritoneal cavities and the tunica vaginalis are of mesothelial origin, and tumors from this structure are classed with the carcinomata. Also it was formerly taught that the

space between the dura and pia is due to a split in connective-tissue and is lined with connective-tissue cells which become flat and endothelial-like. Tumors arising from these cells are classed with the endotheliomata. Mallory at that time wrote: "Further researches may decide that they should be put in a class by themselves." Mallory now defines an endothelioma as a tumor of mesenchymal origin of which the cells tend to differentiate into flat endothelial cells and to line vessels and cavities and to cover surfaces. He names three different type-cells under this tumor heading, namely:—

1. Endothelial cells lining blood-vessels.
2. Endothelial cells lining lymph-vessels.
3. Endothelial cells lining arachnoid or subdural space.

Endothelial cells lining the heart are identical with those lining the blood—and lymph-vessels.



Fig. 5.—Showing line of incision one month after operation and recovery of patient.

The cells lining the subdural space are divided from the mesenchyma at a later period of embryonic life. They differ in some respects from other endothelial cells and are referred to as endothelium, but for convenience they are all treated together, because they and their tumor formations have certain features in common. The endothelial cell is not morphologically a highly differentiated cell. On this very account, however, it stands out in marked contrast with those cells which are thus characterized when all are properly fixed and stained. It is a large, flat cell with a flat, oval nucleus, surrounded by a moderate amount of delicate cytoplasm. It gives rise to intercellular substance and its free border develops no cuticular surface. Endothelial cells have phagocytic properties for other cells. The endothelial cells of a hemangio-endothelioma tend to form blood-vessels as they do under normal conditions. These vessels are backed ordinarily by a slight amount of connective tissue which

forms a stroma and binds them together. Sometimes this stroma is quite abundant so that the tumor appears more or less scirrhus in type. The vessels of the tumor carry blood unless something arises to prevent it. The capillary hemangio-endothelioblastoma is relatively common, often congenital, and frequently grows with considerable rapidity. Mitotic figures may be numerous in it. It is always infiltrative

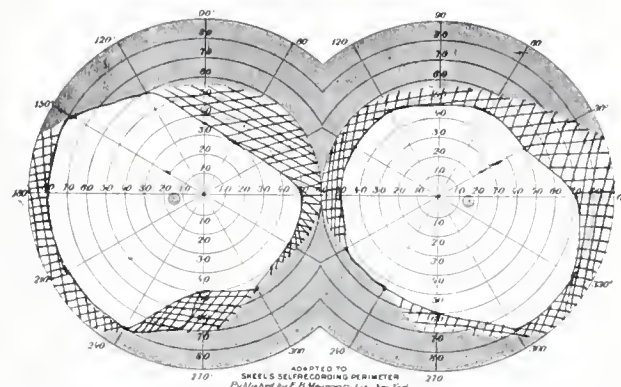


Fig. 6.—Showing eye-grounds—low-grade optic neuritis. Before operation.

in growth; in the skin it surrounds the coil glands and ducts and invades, especially, lobules of fat tissue, nerves and muscles. In the larger vessels the endothelial cells sometimes thicken into two or more layers. In angiomas with vessels with lumina of larger size this piling up of the cells in several layers is occasionally quite a prominent feature. It may affect all the vessels and cause a distinct perithelial type of growth. Mitosis may take place in the cells in any of the layers. In time some of the fibroblasts around the vessels grow in the deposit of collagen fibrils between the endothelial cells.

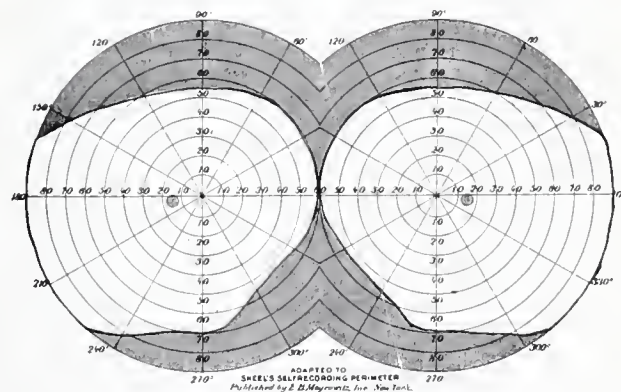


Fig. 7.—Showing normal eye-grounds. Twenty-two days after operation.

Tumor cells are ordinarily grouped in small or large masses with slight connective tissue stroma between them, containing blood-vessels. There is an intimate blending of tumor and stroma, resembling a fibro-sarcoma. The blending is permitted when the growth is slow enough to allow the fibroblasts to grow in between the tumor cells; these also deposit collagen fibrils as a backing for them. Here

the cells wrap around each other, just apply themselves to the surface of one or more other cells to form concentric masses or whorls. These whorls may be of various shapes—spherical, elongated, irregular. Collagen fibrils are frequently found in the centers of these whorls; these fibrils undergo hyaline degeneration; again a commingling of dural endothelial cells and fibroblasts from other whorls and then too there are coalescences of the different whorls to form compound whorls. The centers here frequently undergo necrosis and disappear. It is the disposition of the blood and blood-vessels in the hemangio-endothelioma that largely describes the tumor. As has been said, the endothelial cells tend to form blood-vessels and invariably do so, unless some condition arises to prevent. In the tumor here described the endothelial cells have projected themselves into layers and piles and heaps in many instances and these layers, piles and heaps have been reinforced by fibroblasts and fibrils of collagen in such a way as to block numerous small and large blood-vessels, with their blood-content *in situ*. This accounts for the many remnant blood-vessels containing red blood cells and blood, which appear on section. This is a condition often called entosis or melanosis. As a result hyaline beams and irregular masses of various shapes may be formed, as well as the ordinary spherical balls. Rarely the walls of blood-vessels thicken up and are transformed in the same way into hyaline material. Lime-salts may be deposited in these hyaline masses, so that the tumor on section may feel sandy to touch. This form of tumor, although regarded as benign, shows a marked tendency to invade the dura and infiltrate it more or less extensively. Instances have been reported of its extension through the skull, and, on the other hand, although it exerts a good deal of pressure internally as it grows and causes atrophy of the nervous tissue on which it presses, it very rarely shows any tendency to invade the pia. While invasion of the dura indicates a slight degree of malignancy, metastases apparently never occur. The tumors grow at various rates of speed. Occasionally, mitotic figures are fairly numerous, but most of the tumors are of slow growth. The dural endothelioma is necessarily in its site of origin. Usually it arises from the endothelium lining the dura, but occasionally from the endothelium covering the pia-arachnoid. The tumor is much more common within the vault of the skull, but may arise also anywhere at the base.

Gross Characteristics.—Dural endotheliomata are usually small, a few centimeters in diameter, but occasionally they reach a large size; thus, for example one weighed a little over 200 grams; another in the right occipital lobe measured 8.5 by 6 by 6 cm. Occasionally they

are multiple. They tend to be spherical in shape, but sometimes are irregular or lobed; if they are attached to the dura, they are more or less flattened on one side and sometimes hemispherical. In color they vary from reddish gray, gray, purple or maroon or white according to their vascularity. Some are soft in consistence and easily teased apart; others tough or firm. When the hyaline concentric masses are calcified, the tumors feel sandy or gritty. On this account they have sometimes been called psammomas. This term is inexact and inadvisable, however, because it simply has reference to a physical condition which may occur also in tumors of other natures.

Porter Building.

A CASE OF LARGE ECHINOCOCCUS CYST *

WM. KERWIN, M.D.
ST. LOUIS

A widow of 44 years was referred to me by her attending physician, Nov. 5, 1914, with the diagnosis of ovarian cyst. She gave a history of previous health good, menses regular and normal, three normal pregnancies, and living in St. Louis all her life. Four weeks ago she began losing weight at the rate of ten pounds weekly. Aside from this symptom she was entirely well with the exception of slight gastric distress and obstipation. She was not aware of any growth in the abdomen, thinking the enlargement due to gas.

Examination showed a markedly emaciated woman with the right half of the abdomen distended to its utmost. On percussion and palpation the distention was found to be caused by a cystic mass extending from the pelvis upward under the right costal margin, and from the right lateral abdominal wall over to the median line. At some places the mass felt harder and less cystic. Operation a few days later showed this mass to be retroperitoneal and attached by a very broad base to the right pelvic and abdominal walls and the posterior abdominal wall as far over as the spinal column. It was not attached to, nor did it spring from, any organ. No fluid was obtainable with the trocar, due to the daughter cysts obstructing the lumen. After completely packing off the abdominal cavity an incision was made through the cyst wall and immediately there escaped a large number of cysts ranging in size from a marble to that of a large baseball. In all there were probably almost 1,000, making up a bulk of about 6 quarts. It was impossible to dissect away the large cyst wall owing to its broad attachment and its intimate connection with the large iliac blood vessels; therefore, the incised margins were sewed to the skin and the interior of the cyst was treated with full strength iodine for several weeks afterward, when the opening finally closed. The patient gained very rapidly in weight and was the picture of health soon after leaving the hospital.

The small cysts were thin walled and contained clear fluid from which hooklets could be demonstrated. The specific gravity of the fluid was about 1.001 and the cysts could be floated on water for some time.

4900 Laclede Avenue.

* Read before the St. Louis Medical Society, May 15, 1915.

THE ROENTGEN BISMUTH INJECTION OF RECTAL FISTULA

E. H. SKINNER, M.D.

KANSAS CITY, MO.

The bismuth injection of sinuses popularized by Beck is also applicable in determining the topography of rectal fistulæ. It is surprising how different the roentgenogram of a bismuth-filled fistula with many ramifications will appear when compared with one's ideas obtained by the simple probe examination. While the technic is very simple there are many details which attend successful radiographs.

I have always used an emulsion of bismuth and vaselin produced according to the formula of Beck and marketed in a collapsible metal

ice-cold cloths or ice itself to the parts to promote the hardening of the emulsion in the fistula. If the fistulous opening is small we may cap it with collodion after cleansing the parts with gasoline or ether to remove the greasy vaselin, but this is not always possible.



Fig. 1.—First Roentgen exposure after bismuth injection. Note the short, wide fistulous tract with accumulation of bismuth in rectum.

carton with adjustable nozzle and compression device. This bismuth container and parts are placed in a pan under running hot water to melt the emulsion into a freely flowing liquid; the nozzle and compressor are then attached and pressure made on the collapsible tube by the compression device until the liquid flows freely—as one tests a hypodermic syringe; then insert the nozzle into the sinus and inject slowly, at the same time exerting pressure upon the edges of the sinus opening, to prevent the escape of the emulsion at the sides. A cofferdam constructed about the nozzle with gauze may be used sometimes. When the fistula is filled, as is known by the discomfort acknowledged by the patient or by the escape of the emulsion at the side of the nozzle by back pressure, apply

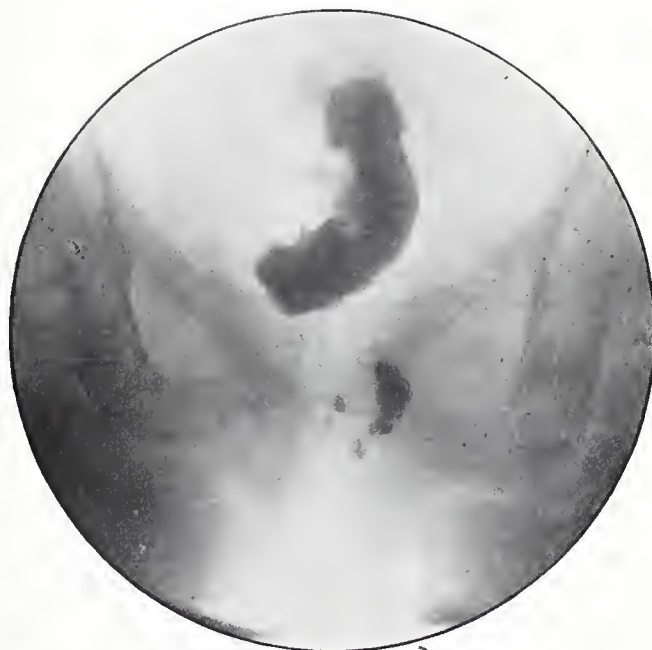


Fig. 2.—Second Roentgen exposure of same case as Figure 1, with increase of bismuth emulsion in the rectum surrounded by gas shadows. The bismuth filling of the fistula remains identical.

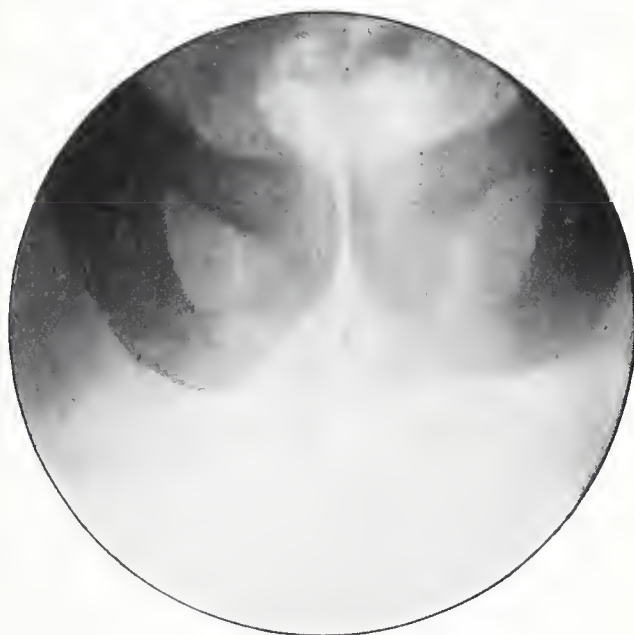


Fig. 3.—Wishbone type of fistula. Lead cipher marks the one opening.

The patient is then turned carefully to a position most favorable for the radiographic exposure, i.e., with the bismuth injected sinus in close proximity to the photographic plate. Inasmuch as it is usually necessary to inject rectal fistula with the patient lying upon the abdomen, one should be extremely careful to

turn the patient easily and with little effort on the part of the patient because any muscular effort of the pelvic or gluteal muscles may cause the escape of the bismuth emulsion.

One may mark the fistula openings with lead ciphers to facilitate the interpretation of the roentgenogram. These may be applied with minute strips of adhesive after cleansing the skin with gasoline or ether.

The roentgen exposure may be made on a single plate or stereoscopically. The latter is more exact and with adjustable viewing boxes provides the third dimension of depth to the roentgen plates. The use of a metallic sound introduced into the rectum during the exposure aids in the stereoscopic interpretation of the true relation of the fistula to the rectal walls.



Fig. 4.—Double fistulous tracts diverging from the one opening.

The interpretation of the bismuth roentgenograms present some features of interest. Naturally the fistulas are of such various types and present such odd channels that there are few fixed types. I have not come into frequent contact with the large serpiginous fistulas which are so spectacular upon roentgen plates. Rather I have seen more of the small, blind, persistent fistulas; many that may be termed wish-bone types, which are blind to the probe but which double back when viewed radiographically.

Where one knows or is suspicious that the fistula terminates in the rectum above the sphincter, there being no back pressure, it is well to take successive exposures, injecting an additional amount of bismuth emulsion between exposures. The fistulous tract will then be outlined and there will be an increasing shadow of bismuth in the rectum on succeeding plates.

Other substances have been used for injection shadows, such as iodoform emulsion, calcium

compounds and pure barium sulphate in suspension. The Beck bismuth paste is so easily obtained, prepared for immediate use, that I have not experimented.

Cummings (Am. Roent. Soc. Trans. 1908) reports that "bismuth paste injected under too great pressure will produce sinuses which it dissects out for itself in loose connective tissue." One will avoid this accident if the emulsion is hot and undue pressure is avoided. I have never seen the accident occur. Cummings also advises bismuth carbonate instead of the subnitrate to avoid possible untoward bismuth effects. It is best not to use the paraffine formulas of Beck because of the hardness this material may assume with the tissues.

1018 Rialto Building.

WILSON AS AN "AD" WRITER

President Wilson lends a hand to advertise advertising, and a capable hand at that. Come to think of it, nobody knows better than a president the importance of advertising of the right sort—and that is the subject of his letter to the Associated Advertising Clubs. "The country is to be congratulated," writes Mr. Wilson, "on the work of the Associated Advertising Clubs to establish and enforce a code of ethics based on candid truth that shall govern advertising methods."

Assuming that the attractive and forceful phrase "a code of ethics based on candid truth" is his own, Mr. Wilson is entitled to a high place among the "ad" writers of his day. Simple language gracefully used, a stippled legend that stands out like a sign in electric lights, it epitomizes the ideal for which honest advertising men are striving. (Taken as a whole, the Wilson letter stands as a vital example of the basic advertising proposition that truth ought to be no less interesting than it is genuine. Incidentally the fault in some advertising goes beyond its falsity—it lacks even the merit of being entertaining.)

To lay emphasis on honesty in advertising is a great work, and a tribute to the advertising men who are undertaking it in an effective manner. When they shall have established and enforced a code of ethics based on candor they will have raised their calling to a profession—the highest profession of truth-telling. To deepen the sense of public obligation of business men will work nothing less than a profound sociologic and economic reform—worth more than a thousand Sherman acts, pure food laws, statutes of fraud, and doing away with the vicious principle of "Caveat Emptor," "Let the buyer beware"—that has impliedly sanctioned want of candor in the seller. The sort of honesty which will make all men cry their wares truthfully and give value received to the public will ramify through every department and function of commerce, of finance and even of government. It is a consummation devoutly to be wished and advertised, and in the language of "Ad" Writer Wilson—"a conception which is one of the inspiring things in our outlook on the future of national development."

To get down to brass tacks, honest advertising men can go a long way to compel honesty in the business which they serve.—*St. Louis Post-Dispatch*.

THE JOURNAL

OF THE

Missouri State Medical Association

Address all Communications to 3517 Pine Street, St. Louis, Mo.

APRIL, 1916

DEATH OF DR. LUTZ

Just as we are going to press we received word that Dr. Frank J. Lutz, Chairman of the Judicial Council, died at his home in St. Louis, on March 24, from endocarditis and aortic aneurysm.

EDITORIALS

ALLEN METHOD OF TREATMENT IN DIABETES

The value of the experimental method in the study of clinical problems has again been shown in the development of the Allen or "starvation" method of treatment in diabetes. In 1914 Allen¹ published the results of several years of animal experimentation, and the application of his results to diabetes in man has been receiving enthusiastic endorsement from clinicians in a number of our hospitals.²

Allen found that by various degrees of partial pancreatectomy he was able to reproduce diabetes in varying grades of intensity and thus obtain test objects for studying diabetic therapy. He found that by prolonged fasting he could eliminate the glucosuria and acidosis in severe diabetes, and as a result of this "functional rest" of the pancreas was able to keep the animals alive for long periods of time. If the glucosuria was allowed to persist there was a steady decline which ended in death. After the urine of the animals has been made sugar free by fasting, it was necessary to maintain them on a restricted diet, as any increase in their weight or metabolism tended to bring back the glucosuria and this was the one thing Allen found which must be avoided.

Applied clinically the treatment consists of an initial fast lasting until the urine has become sugar free and the symptoms have disappeared. Following this only enough food is given to maintain the patient at the weight attained and which does not permit of an increase. The

tolerance for fat, carbohydrate, and protein is obtained but only that amount of food allowed which can be given and the urine kept clear. Patients have been subjected to this degree of undernutrition for weeks and months with ultimate benefit. The addition of excessive fat to replace the lack of carbohydrate calories is particularly warned against, as fat brings back the acidosis and glucosuria. Needless to say Allen's method is quite opposed to the current clinical practice of giving carbohydrate to avert an impending severe acidosis or coma.

Although it is as yet too early to put a fixed value on the method, and time and use alone can fix its definite form, it would seem from the general endorsement of those who have been giving it a careful trial that it marks an important advance in therapy. It has been found applicable not only to adults, but also in the few cases tried to children, in whom diabetes notoriously has a bad prognosis. A case in which it was used with benefit was presented before the Washington University Medical Society by Dr. Philip C. Jeans and reported in the JOURNAL for March, 1916.

TAKE THE HOSPITALS OUT OF POLITICS

The ruthless attack upon Dr. George R. Thompson, superintendent of State Hospital for the Insane No. 2, St. Joseph, because he could not be "handled" by politicians and would not discharge employees without cause in order to make room for political workers, will undoubtedly add impetus to the demand that the eleemosynary institutions of the state be removed from political control. This should be done by the next legislature. It is the only way to prevent our state hospitals from being exploited by persons who seek political preferment and who are willing to sacrifice the welfare of the inmates in their mad scramble for votes. But the day has passed when such intriguing can be indulged with impunity by office seekers in Missouri. This unfortunate episode will certainly attract much influential support to the organized medical profession in our effort to have these institutions removed from political domination. The day is rapidly drawing near for Missouri to take this step and thus place the commonwealth in line with those states which have already lifted state institutions out of the domain of politics and have given the inmates the benefit of scientific care and treatment.

Candidates for political office will gain votes, not only among physicians but among all classes of citizens, by declaring themselves in favor of separating the eleemosynary institutions from

1. Allen, F. M.: Studies Concerning Glycosuria and Diabetes, Harvard Univ. Press.

2. Allen, F. M.: Prolonged Fasting in Diabetes. Amer. Jour. Med. Sc., 1915, cl, 480. Joslin: Amer. Jour. Med. Sc., 1915, cl, 485. Allen: Bost. Med. and Surg. Jour. 1915, clxxii, 7. Hill and Eckman: Starvation Treatment with Diet Lists; Boston; W. M. Leonard, publisher, 1915.

political control and placing them under the direction of a central board of control with civil service rules for employees. This method has proved entirely satisfactory in several states and is rapidly growing in favor as the best means of successfully administering state institutions.

The dismissal of Dr. Thompson is a dearly brought victory, if we accurately gauge the sentiment of the people in St. Joseph. Instead of gaining prestige, the majority members of the board and the political methods they represent have been submerged in a tidal wave of indignation and protest, some evidences of which we present in another column in this issue.

We commiserate the citizens of St. Joseph, who realize the damage their community sustains when the sick and afflicted proteges of the state housed within their borders are exploited in this disgraceful fashion for the sake of a few fleeting days of political power; we congratulate Dr. Thompson for the firm stand he maintained against political interference with the care and treatment of the unfortunates under his protection and the sacrifice he has been forced to suffer on their account; and we commend Dr. J. A. Postlewait of Tarkio, the president of the board of managers and Mr. Edward S. Villmoare of Kansas City, another member of the board, both of whom resigned after a futile protest against the unfair tactics pursued in the trial of Dr. Thompson, for refusing to indorse the board's action. Our congratulations extend also to Drs. R. O. Lieualen and A. T. Fisher, assistant physicians, who testified eloquently concerning Dr. Thompson's efficiency, and resigned their positions when he was discharged.

MEDICAL ETHICS—FOR WHOM?

In the recent discussion of medical ethics in the daily press the attitude taken by the writers of various editorials exhibits a large amount of misinformation of the meaning of medical ethics. The idea prevailed with such writers that the code is a whip which the medical organization holds over the profession in order to keep all physicians from discussing "trade secrets"; to prevent the members of the society, good or bad, from letting the world know of their achievements, and to keep the laymen on the "outside" while the medical man is on the "inside."

But what are the facts? In the Principles of Medical Ethics we read: "A profession has for its prime object the service it can render humanity. Reward or financial gain should be a *subordinate consideration*. The practice of medicine is a profession. In choosing this profession an individual assumes an obligation to conduct himself in accord with its ideals."

What are its ideals can only be known when this code of ethics, as adopted by the American Medical Association, is read and studied. While we know that rules and codes do not make an individual better, the observance of them certainly will not make him worse.

In a recent incident the question which interested the lay press and the community seemed to be not so much a matter of professional conduct (ethics), but one of supposed persecution, without going into the merits of the individual case. The public, whose sympathy is usually with the "under dog," attacked the code of ethics and the medical profession instead of attacking individuals or societies for incorrectly interpreting the code of ethics.

We feel that it is important, in fairness to the medical organization, to direct the attention of the public to the high standard which our code stands for and to emphasize the point that the principles of medical ethics are primarily for the protection of the public. Their enforcement should receive the endorsement, not the condemnation, of the community.

PROGRAM FOR THE FIFTY-NINTH ANNUAL SESSION, EXCELSIOR SPRINGS, MAY 8-10

The Committee on Scientific Work presents in this issue a preliminary report of the program for the annual session to be held at Excelsior Springs, May 8-10. The complete program will be arranged and printed as usual and distributed at the meeting.

All meetings will be held in the Elms Hotel, which is also the headquarters. The House of Delegates will meet on Monday, May 8, in the ballroom and endeavor to complete all the business of the session during that day so there will be no conflict with the scientific work. The scientific sessions will begin on Tuesday, May 9, and continue until adjournment. The president's address will be delivered at the opening of the scientific session.

Arrangements are in progress to observe Health Sunday in the churches with members of our Association delivering addresses on public health and sanitation as was done in St. Joseph last year.

The prospects are very encouraging for one of the best meetings in our history. Make your arrangements to attend this session, for it is certain that you will profit not only by participation in the scientific work of the organization but because Excelsior Springs is a most delightful place to spend a few days and the local members intend to see that every one shall enjoy his visit.

AN AMERICAN ASSOCIATION OF CLINICAL LABORATORIES

The subject of clinical laboratories and their relation to the public and to the medical profession has undoubtedly been greatly neglected by medical editors. The prominent place which these laboratories have assumed in present medical practice justifies frequent discussion of the various phases involved in the subject. An American Association of Clinical Laboratories, which is now in the process of formation, should bring the subject of diagnostic laboratories prominently before the profession.

What such an association can accomplish for its members is not of general interest; but it is of vital interest to know how such an association will affect the interests of the public and the profession. A most favorable feature of the plan of this association is that its standards for membership shall be fixed by or made with the approval of a committee of prominent medical men who are not members of the association. The election of members will be a duty of this committee. This is a novel and apparently excellent plan to insure that merit will be the only consideration in the matter of membership.

False laboratory reports accomplish much harm to the public and to the profession; in fact, poor laboratory work is worse than none at all. The profession needs a list of high-grade, dependable laboratories. If an association with high standards is formed the proper publicity will result in the elimination of the poor laboratory either by discontinuance or by a rise in standard. This association will stimulate higher standards in laboratory work; it will discourage the continuance of poor laboratories and the establishment of new laboratories by incompetent persons.

THE ASSOCIATION OF AMERICAN MEDICAL COLLEGES

IMPORTANT FEATURES OF THE ANNUAL MEETING, CHICAGO, FEBRUARY 8

Perhaps the most startling development of the meeting was the proposal of the Chairman of the Council on Medical Education of the American Medical Association to reduce the number of good schools of medicine by uniting two or more schools that now exist independently in many of the largest cities of this country. That some steps have already been taken toward this end is evident from the statements now appearing concerning the consolidation of three really good medical schools of Chicago. The proposal appeals on educational and economic grounds.

The symposium on the "Relation of the Laboratory Courses to the Work of the Clinical Years" developed chiefly the thought that no sharp dividing line may properly separate in halves the work of the medical school. Early in his course the student must be trained in the approved scientific methods of approach to his problems in physiology, biochemistry, pathology, etc. The mastery of principles is the essential thing and the gathering of a large mass of mere facts, while necessary, is only secondary. To tell just where laboratory physiology ends and the principles of medicine begin for the student of medicine is impossible. The by-product, as it were, of laboratory training of today may be the fundamental principles in the newly developed surgery of tomorrow.

The sessions also developed the fact that medical educators are concerning themselves with the problem of the dwellers in rural districts who find increasing difficulty in attracting to their midst medical practitioners of high grade and modern training. With more telephone facilities, perfect roads, quick transportation by motor and trolley the problem will grow less urgent we believe.

One whole session was given to a consideration of the details of clinical teaching in medicine and surgery. There was presented an outline for the organization of an ideal dispensary, taking up all the factors as to buildings, staff, administration, etc. It was pointed out that many of our dispensaries as used at present have little of real educational value and that the two dispensary functions, namely, that of serving the sick and that of furnishing real teaching facilities, must be recognized and dealt with accordingly.

Dr. H. W. Loeb, dean of St. Louis University School of Medicine, in his paper entitled "The Municipal Hospital as a Factor in Clinical Teaching," pointed to the great good that accrues to hospital, patients and schools of medicine when, with harmonious relationship between schools, the municipal hospital problem is approached with the sole idea of providing service and teaching of most excellent quality only.

The association balloted favorably on the applications for membership from the medical schools of the Universities of Fordham, Marquette, and South Carolina. The University of Utah was dropped from the list of members.

After Jan. 1, 1918, all schools in the association must require a minimum of two years of college work for entrance. It is interesting to note that this standard has been fixed already in all three of the Class A schools in Missouri.

A NATIONAL LEPROSARIUM

The Senate Committee on Public Health and National Quarantine has reported favorably on the bill providing for the establishment of a national leprosarium for the care and treatment of leprosy, and the prospects are good for its passage in the Senate. The movement that has culminated in this rational means of isolating lepers was started about three years ago by Dr. M. F. Engman of St. Louis, a member of the St. Louis Medical Society and a member of the staff of the Barnard Free Skin and Cancer Hospital since its foundation.

It was in 1913 that Dr. Engman found the leper Hartman isolated at the St. Louis quarantine station with another leper, a Chinaman, in an advanced stage. Hartman later escaped and became a wanderer. At the meeting of the American Medical Association and again at the meeting of the American Dermatological Association in 1914, Dr. Engman introduced resolutions appealing to the national government to establish a leprosarium under federal control. These resolutions were adopted and since that time the strength of the movement has grown continuously.

Several lepers have been discovered in Missouri during the past few years; their condition was pitiable and the utter absence of facilities for treating the disease or even housing the victims in a humane manner made them com-miserable objects in what we are wont to call a civilized land. Furthermore, every one with whom the leper comes in contact is exposed to infection and the unfortunate sufferers become outcasts and wanderers. It is known that there are several hundred cases of leprosy scattered throughout the country, most of them uncontrolled and untreated, who will soon or late become a serious menace. The wide distribution of the cases and the wanderings of the unfortunates from state to state make it imperative that the government provide for their care in an institution under federal control, since it is manifestly impossible for each community in which a leper is discovered to establish the special facilities so necessary for his care and treatment. This disposition of the cases would also prove advantageous to investigators of this dreadful affliction.

We urge all members to write their congressmen and senators at Washington to favor the passage of this bill.

DR. WILLIAM L. RODMAN

Dr. William L. Rodman of Philadelphia, president of the American Medical Association, died at his home, 2106 Walnut St., Wednesday, March 8, of pneumonia. He had been ill but a few days.

Dr. Rodman was born in Frankfort, Ky., in 1858. After being graduated from the Kentucky Military Academy with the degree of Master of Arts, he began the study of medicine with his uncle, Dr. James Rodman, and in 1879 he was graduated from the Jefferson Medical College of Philadelphia. He served a year as an intern and then joined the army medical corps, being stationed for two years at Ft. Sill, I. T. He later returned to his native state and entered practice in Louisville, occupying the chairs of surgery in the medical department of the University of Louisville and later in the Kentucky School of Medicine. In 1898 he was invited to take the chair of principles of surgery and clinical surgery in the Medico-Chirurgical College at Philadelphia, which chair he occupied at the time of his death.

Dr. Rodman was one of the best-known surgeons in America and was widely and favorably known abroad. At the time of his death he was a member of the College of Physicians of Philadelphia, the American Surgical Association, the International Surgical Association and the American College of Surgeons. He was also a member of the staff of the Medico-Chirurgical, Blockleys and Presbyterian hospitals. Dr. Rodman had done a great deal of advanced work with reference to cancer of the breast and cancer of the stomach. About fifteen years ago he suggested that gastric ulcers should be excised rather than treated by gastro-enterostomy, as are duodenal ulcers, and this is the established practice of today.

Dr. Rodman was a scientist, surgeon, philanthropist, scholar, teacher, gentleman and friend, qualities rarely combined in one man.

AMERICAN UROLOGICAL ASSOCIATION MEETING AT ST. LOUIS APRIL 17-19, 1916

The American Urological Association, composed of about 400 members from the United States and Canada, will meet in St. Louis with headquarters at Planters Hotel, April 17, 18 and 19. Dr. Edward L. Keyes, Jr., New York, is president of the association. There are seventeen members of the organization in St. Louis, three in Kansas City and three in St. Joseph, making twenty-three members from Missouri.

The local committee of arrangements is preparing to entertain from 150 to 200 visiting members, and has arranged a novel feature by providing entertainment for and sending invitations to the wives of the visiting members.

OBITUARY

MATHEW G. GUHMAN, M.D.

Dr. Mathew G. Guhman died in St. Louis, March 10, 1916, of nephritis after a long period.

Dr. Guhman was born in St. Louis, June 30, 1872, the son of the late Dr. Nicholas Guhman, and was graduated from the Missouri Medical College in 1890.

He never married and leaves to mourn his loss four sisters and two brothers, Drs. John O. and Charles M. Guhman, both members of this society. Another brother, Dr. Nicholas Guhman, Jr., died some years ago.

The deceased won the esteem of all who knew him because of his charitable nature and his many kindnesses to the poor and needy.

The funeral was from the residence, 5183 Cabanne Ave., on March 13, to St. Mark's Church and interment was in Calvary Cemetery. —*Bull. St. Louis Med. Society.*

STEPHEN H. STEELE, M.D.

Dr. Stephen H. Steele, born Oct. 29, 1830, in Lauderdale County, Tenn., died at Caruthersville, Mo., Feb. 17, 1916, at the age of 85 years, 3 months and 19 days.

After graduating from the Medical Department of the University of Pennsylvania in 1854, he practiced at Ripley, Tenn., until the beginning of the Civil War. Returning from the war, in which he served on the side of the Confederacy, he moved to Mississippi County, Ark. Some years later he moved to Caruthersville, Mo. He represented Pemiscot County in the legislature in 1874 and in subsequent years was probate judge and presiding judge of the county court of his county. He served as postmaster during the Cleveland administration, was for many years a member of the local board of examining surgeons for the U. S. Pension Bureau, and during the past ten years was one of the two magistrates of Caruthersville.

Dr. Steele was one of the pioneer physicians of Southeast Missouri, a man of sterling integrity, keen wit and remarkable prudence.

WILLIAM A. McCALLISTER, M.D.

Dr. William A. McCallister, a graduate of the Missouri Medical College, St. Louis, 1877, and a pioneer physician of Centralia, died at his home Feb. 16, 1916, after a lingering illness. From the *Tribune* of Columbia, Mo., we cull the following:

Dr. McCallister was born in Huntington County, Ind., Jan. 7, 1850. In 1866 he came to Missouri and located in Boone County, where he engaged in farming in summer and

school teaching in winter. This he continued until 1872 when he began the study of medicine under Dr. Keith. On his graduation in 1877 he located at Centralia and devoted the remaining years of his life to the practice of his profession in that city. No man in Boone County was better known or better liked than the pioneer physician of Centralia. He was progressive, and every movement that meant the advancement of his locality bore the stamp of his approval and was the recipient of his financial and moral support. He was not only a representative man who was held in the highest esteem in the community in which he resided, but he was an esteemed and honored member of the medical profession, for many years a member of Boone County Medical Society and the Missouri State Medical Association.

During his career Dr. McCallister officiated at 2,000 births, or ushered into the world more children than there are people living in Centralia today.

JAMES SANFORD PRESTON, M.D.

It becomes my painful duty to record the death of Dr. James Sanford Preston of Armstrong, Mo., which occurred at his home on March 2, 1916, after a long and painful illness. Dr. Preston was born in Fayette, Mo., July 4, 1843. He received his literary education at Central College and at the Missouri State University, where he graduated in a class of nine with Senator W. J. Stone as a classmate on July 2, 1865, and in 1867 he graduated from the St. Louis Medical College.

He was married to Miss Sarah A. Smith, daughter of the late Robert Smith, of Mt. Airy, Mo., in 1868 and located at Mt. Airy to practice his profession. Afterward he moved to College Mound and later to Huntsville, Mo. He and his wife were blessed with two sons and four daughters. His oldest daughter married Mr. R. P. Walton, editor of *Armstrong Herald*. As a husband, father and citizen, Dr. Preston was kind, considerate and public spirited. He was physician at the state penitentiary under Governor W. J. Stone. He was a fluent writer and a great friend to all the physicians and aided us much in the medical legislation in the legislature.

He was my personal friend and co-laborer for fifty years. He was kind, gentle and ethical, a practical Christian and died in the full assurance of the life beyond. His funeral was preached by his life-long friend, Rev. Dr. E. B. Richmond of Moberly, Mo. The very large attendance at his funeral bore testimony of his high standing among those who knew him best and where he was raised, lived and died.

C. W. WATTS, M.D.

Secretary Howard County Medical Society.

NEWS NOTES

DR. C. H. TEMPLE, Glasgow, is ill in a hospital at Kansas City suffering from paralysis.

DR. O. C. SHELEY, Independence, was confined to his home for a few days, but has recovered and is again attending to his work.

DR. J. B. FLEET, New Franklin, suffered an injury which caused a dislocation of the shoulder and the fracture of several ribs.

DR. M. H. SHELBY, Charleston, secretary of Mississippi County Medical Society, has been appointed secretary of the County Board of Health.

DR. C. W. WATTS, Fayette, secretary of Howard County Medical Society, was confined to his home for some time suffering from a severe cough.

GREENE County Medical Society members banqueted their retiring president, Dr. A. L. Anderson, Springfield, February 25. About fifty members attended.

DR. F. L. COOK, city physician of Independence, has invited the cooperation of the medical profession of Independence to establish medical inspection of schools.

MAKE your reservations early for the annual meeting at Excelsior Springs, May 8-10. The Elms Hotel is headquarters. Other good hotels are the Snapps and Royal.

DR. H. S. CROSSEN, St. Louis, addressed the Society of Physicians and Surgeons of East St. Louis, February 2, on the subject, "The Danger Signals of Ectopic Gestation."

DR. R. L. WILLS, Neosho, a member of the State Board of Health, addressed a mass meeting at Carthage, March 8, in the interest of a proposed school bond issue for \$90,000.

DR. DANIEL MORTON, St. Joseph, addressed the Social Progress Society at a luncheon meeting at St. Joseph, March 10. His subject was "City Planning for Medical Social Service."

THE friends of Dr. Z. M. Hampton, Centuria, will be grieved to learn that he has been incapacitated for some time and able to do very little work. He is suffering from paralysis agitans.

DR. A. W. PARRISH, Kirksville, the Nestor of the medical profession in that vicinity, was a victim of the epidemic of influenza and confined to his home for three weeks. He has fully recovered.

DR. F. W. WESSLER, St. Louis, suffered a Colles' fracture several weeks ago while returning home from a professional call. Dr. Wessler is 74 years of age and an Honor member of the St. Louis Medical Society. He is making good progress toward recovery.

DR. J. W. GREENE, father of Dr. Dora Greene-Wilson, Kansas City, died at the German Hospital, Kansas City, February 27. Dr. Greene was a dentist, widely known throughout the country as the exponent of prosthetic dentistry, which he improvised twenty years ago.

THE Chicago Medical Society announces the fifth annual meeting of Alienists and Neurologists of the United States, to be held under the auspices of the Chicago Medical Society, June 19 to 24, at the La Salle Hotel. Further information will be given by Dr. W. T. Mefford, Secretary of Conference, 2159 Madison Street, Chicago.

DR. LEO LOEB, St. Louis, delivered a lecture before the Washington University Association, March 21, on "The Scientific Study of Cancer." Dr. Loeb will deliver a series of five lectures to the students of the university and others who may be interested on tumor growth and tissue growth. The lectures will begin April 7, and thereafter a lecture will be delivered on each of the following four Fridays.

ST. LOUIS Mullanphy is planning to erect a new building but the definite location has not been decided upon. Mullanphy Hospital is the oldest hospital west of the Mississippi. It was erected in 1828, the funds being donated by John Mullanphy. The first building was a log cabin. In 1831 this was replaced by a brick building. It is conducted by the Sisters of Charity of St. Vincent de Paul.

THE *American Journal of Gastro-Enterology* has combined with the *Proctologist* and will be published at St. Louis beginning with the March number, as the *Proctologist and Gastroenterologist*. Dr. Lewis Brinton, Philadelphia, and Dr. Anthony Bassler, New York, will have editorial charge of Gastro-Enterology; Dr. A. L. Benedict, Buffalo, editor of Dietetics; Dr. Rollin H. Barnes, St. Louis, is managing editor and publisher.

DRS. J. H. AND U. S. G. HUGHES, Kansas City, were refused an injunction in the circuit court March 8, to prevent the State Board of Health from considering charges against them. In passing on the citation Judge Buckner said the attempted action assumed that the board of health was going to do something which was radically wrong, but that in his opinion the board was more competent to deal with the matter than was the circuit court.

DR. O. A. SMITH, Farmington, has been appointed councilor of the Twenty-Fifth District to fill the vacancy until the next annual session, caused by the removal from the district of Dr. T. T. O'Dell, formerly of Ellington. Dr. O'Dell is now living at Marionville, Lawrence county. Dr. Smith has been a member of the Association for many years and is well known among the physicians of the Twenty-Fifth District. He is a graduate of Washington University Medical School, 1892, and served as intern for one year in the St. Louis City Hospital.

THE Interstate Health Officers Association was organized at a meeting in Joplin, February 17. Membership is open to health officers of cities in Missouri, Kansas, Oklahoma and Arkansas. Addresses were made by Drs. Montee, McNaughton, Ketchum and Clark. The object of the association is to prevent the spread of contagious disease. The officers elected are Dr. D. R. Hill, Joplin, president; Dr. C. F. Montee, Pittsburgh, Kan., first vice president; Dr. C. S. Huffman, Columbus, Kan., second vice president; Dr. C. M. Ketchum, Joplin, third vice president; Dr. G. P. McNaughton, Miami, Okla., secretary.

THE St. Louis Medical Society has inaugurated a campaign for increasing their membership to 1,000. "Contrary to the opinion expressed by some of the members," says the *Bulletin* of the society, "this activity on the part of the membership committee will not give the impression that we are about to lower our standards and increase our numerical strength at the expense of ethical principles. Should any misguided individual so interpret the committee's work he will be quickly disillusioned. It might be well, however, for every member to scrutinize a little more carefully the list of applicants as published in the *Bulletin*, since it is impossible for the committee to have personal knowledge of the qualifications of every applicant submitted to them." The society now has 864 members.

THE American Medical Golfing Association held its first tournament in San Francisco, June 21, 1915. Arrangements were then made for the organization and that is now complete with the following directors: president, Wendell C. Phillips, New York; vice president, James Eaves, San Francisco; secretary-treasurer, Will Walter, Chicago. Plans are now being made for the second tournament to be held in Detroit at the forthcoming A. M. A. convention in June. All Fellows of the A. M. A. who play the game are eligible and may obtain the desired information from the secretary-treasurer, Dr. Will Walter, 122 S. Michigan Boulevard,

Chicago. Members of the British Medical Association have a similar organization for play at their annual meetings, and it is thought that this will add materially to the social interest of the A. M. A.

IF your insurance against malpractice includes your assistants see that the policy covers every service the assistant might render your patient whether your assistant is directly under your supervision or not. The Tennessee supreme court recently ruled (*Medical Record*, January 29) that a physician could not recover from the insurance company for an act of one of his assistants who was included in the physician's policy, because the services of the assistant were not rendered "while acting under the assured's instructions." The assistant in this case made a mistake in diagnosing a case that his superior had not seen. The patient recovered damages from the assured and the supreme court upheld the contention of the insurance company that it was not liable because the assistant was not acting "under the instructions of the assured."

WE have received a copy of the latest publication of the National Committee for the Prevention of Blindness, entitled "Trachoma—a Menace to America," prepared by Mr. Gordon L. Berry. It is a popular presentation of the subject for the education of the layman as to the prevalence of this disease, its effects on vision and the methods adopted for its control and eradication. The use of technical terms has been avoided so far as possible in order that all phases of this important public health problem might be readily understood by the general public. In spite of the fact that this disease has received a great deal of publicity during recent years it is surprising to note that the word "trachoma" does not appear in any one of a number of our leading abridged high school or collegiate editions of standard dictionaries. A copy of the publication will be sent free to any physician on application to the National Committee for the Prevention of Blindness, 130 East Twenty-Second Street, New York City.

SINCE Dec. 1, 1915, the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Nonofficial Remedies:

Heilkraft Medical Co.: Dimazon, Dimazon Oil, Dimazon Ointment, Dimazon Powder.

Hoffmann-LaRoche Chemical Works: Betain Hydrochloride, Roche. Beta-Naphthol Benzoate, Roche. Ergotinine Citrate, Roche. Hematropine Hydrochloride, Roche. Seiden Peptone, Roche. Theobromine and Sodium Acetate, Roche.

Hynson, Westcott & Co.: Mercury Biniodide Oil Solution in Ampules, H. W. and Co.

Knoll & Co.: Ichthalbin Tablets, 5 grs. Tri-ferrin Tablets, 5 grs.

Merck & Co.: Antithyroidin Moebius Tablets, $\frac{3}{4}$ gr. Apiol, Merck. Berberine Hydrochloride, Merck. Creosote Carbonate, Merck. Dionin Tablets, Hypodermic, 1 gr. Dionin Tablets, $\frac{1}{4}$ gr. Ergotin, Merck. Euquinine, Tablets, 2 grs. Euquinine Tablets, 5 grs. Ferratin Tablets, $\frac{1}{2}$ gr. Iodipin Tablets, 3 min. Iron Lactate, Merck. Liquid Petrolatum, Merck. Ouabain, Merck. Phenolphthalein, Merck. Phloridzin, Merck. Quinine Tannate, Merck. Sodium Phosphate, Monobasic, Merck. Sodium Nucleinate, Merck. Stypticin Tablets, Hypodermic, $\frac{3}{4}$ gr. Stypticin Tablets, Dental, $\frac{3}{4}$ gr. Stypticin Tablets, Sugar-Coated, $\frac{3}{4}$ gr. Sulphanilic Acid, Merck. Theopyllin Sodium Acetate Tablets, 0.15 gm. Triphenin Tablets, 5 grs. Tropicocaine Hydrochloride Tubes, Sterilized, 1 gr. Veronal Sodium Tablets, 5 grs.

H. K. Mulford Co.: Diphtheria Toxin for Immunity Test (Schick Test), Mulford.

Parke, Davis & Co.: Iodalbin and Mercuriol Tablets, Mercuriol Tablets, $\frac{1}{4}$ gr. Mercuriol Tablets, $\frac{1}{2}$ gr. Mercuriol Tablets, 1 gr. Mercuriol Tablets, 2 grs. Mercuriol with Potassium Iodide Tablets.

Powers-Weightman-Rosengarten Co.: Calcium Phenolsulphonate, P.W.R.

Swan-Myers Co.: Swan's Typhoid Bacillus Vaccine (No. 44) (Hospital Package). Swan's Typhoid Bacillus Vaccine (No. 44) (Board of Health Package).

Lehn & Fink: The Council has recognized Lehn & Fink as Selling agent for Chloralamid, Schering.

W. L. Cummings Chemical Co.: Radium Bromide. Radium Carbonate. Radium Chloride. Radium Sulphate.

Borcherdt Malt Extract Co.: Borcherdt's Dri-Malt Soup Extract. Borcherdt's Dri-Malt Soup Extract with Wheat Flour. Borcherdt's Soup Powder.

E. R. Squibb & Sons: Antistreptococcus Serum, Rheumaticus.

Lyster Brothers: Lyster's Prepared Casein Diabetic Flour.

John F. Hardesty, St. Louis.
F. J. Hatch, Kansas City.
J. T. Hethcork, Morehouse.
Eugene A. Hiebner, Warsaw.
Frederick H. Kampf, St. Louis.
E. Ellsworth Kneale, St. Louis.
E. F. Knowles, Brunswick.
Joseph S. Leslie, Jefferson City.
C. F. Lyle, Boonville.
Dudley E. Mackey, St. Louis.
Patrick McGennis, St. Louis.
Claud McRaven, Marston.
Cyrus P. McRaven, St. Louis.
G. J. Pickenpaugh, Unionville.
Lawrence T. Post, St. Louis.
James L. Potter, St. Louis.
John A. Pringle, St. Louis.
Gustav H. Reinhardt, St. Louis.
Dalton Keats Rose, St. Louis.
N. A. Schwald, Cole Camp.
David E. Smith, St. Louis.
E. P. Stepp, Morehouse.
Edwin Tufts, St. Louis.
E. F. Weir, Unionville.
Samuel W. Woltzen, Urich.

CHANGE OF ADDRESSES

Wm. H. Allen, Rich Hill to Urich R. D. No. 29.

Chas. E. Bauer, 2101 N. 14th St., to 3130 N. Grand Ave., St. Louis.

Chas. F. Clark, 2161 Walrod Ave., to 4925 Chestnut St., Kansas City.

Cyrus E. Coffee, 2716 N. 15th St., to 4356 Warne Ave., St. Louis.

W. R. Beatie, 873 N. Blvd., to Landers Bldg., Springfield.

Henry N. Chapman, 3814 Washington Ave., to 4491 W. Pine St., St. Louis.

James R. Clemens, St. Louis, to Noroton, Conn.

Edwin C. Ernst, Mullanphy Hosp., to 401 Humboldt Bldg., St. Louis.

Amos T. Fisher, St. Joseph to Kansas City.

Ferdinand F. Haas, 5227a Virginia Ave., to 3627 Iowa Ave., St. Louis.

Otto A. Hartwig, 219 N. 14th St., to 3908 Cleveland Ave., St. Louis.

R. L. Hild, 4500 Cook, to 5100 Maple Bldg., St. Louis.

John C. Lebrecht, 1509 Chouteau Ave., to 3010 S. Grand Ave., St. Louis.

Eugene F. McCarthy, Marina Bldg., to 301 Wall Bldg., St. Louis.

Joseph L. McDermott, 606 Commercial Bldg., to 1130 Rialto Bldg., Kansas City.

Wm. E. Montgomery, 822 Rialto Bldg., to 205 Argyle Bldg., Kansas City.

James T. Morgan, Casa Verdugo, Calif., to Los Angeles, Calif.

M. J. Owens, 905 Waldheim Bldg., to 828 Rialto Bldg., Kansas City.

MEMBERSHIP CHANGES, MARCH

NEW MEMBERS

Edmund Bechtold, St. Louis.

J. W. Clark, Fristoe.

Arthur Conway, Webster Groves.

Walter J. Eilerts, St. Louis.

Roy H. Ferguson, Moberly.

George A. Greeson, Lincoln.

George W. Horrom, Rolla.

Vincent L. Jones, St. Louis.

George O. Gauen, St. Louis.

C. C. Greenfield, St. James.

Eugene L. Rice, Argenta, Ark., to Otterville, Mo.

Paul M. Tothman, 1446 N. 11th St., to 1007a Cass Ave., St. Louis.

J. N. Scott, 606 Commercial Bldg., to 1130 Rialto Bldg., Kansas City.

Samuel T. Smith, Poplar Bluff to Harviell.

C. L. Woolsey, St. Joseph to Braymer.

RESIGNED

Young H. Bond, Barbreeck, La.

George W. Petty, Nevada.

DROPPED

James L. Downing, Odessa.

Henry W. Klostermann, Laquey.

Wm. A. Moore, Mullen, Neb.

Fred P. Riley, Clyde.

DECEASED

J. Q. Cooper, Centralia.

W. N. Diamond, Taneyville.

Matthew Guhman, St. Louis.

W. A. McCallister, Centralia.

MISCELLANY

NATIONAL CONFERENCE OF CHARITIES AND CORRECTION

In preparation for the reception of the forty-third National Conference of Charities and Correction, which is to be held at Indianapolis, May 10-17, committees have been organized throughout the state for the purpose of making a great exhibit of the progress of Indiana in matters of social welfare during the past 100 years, as the centennial of her admission to the Union will be celebrated in 1916. Organized social work, both public and private, has been growing by leaps and bounds in this central region, and it has been thought that the record of attendance at the last National Conference (2,600) may be more than equaled.

A CANCER QUACK TO JAIL

"Doctor" Clement, the cancer quack, must spend a year in jail and pay a fine of \$500 for his heartless preying on the public. His sentence has been confirmed by the court of appeals.

It will be a salutary lesson to other unscrupulous men who may have the idea of making money in the same cruel fashion. Medical science knows no "cure" for cancer. The men who profess to cure the disease with medicines not only are cheating the patient, they are endangering his life by keeping him from undergoing the only treatment which may restore his health.

That treatment, generally speaking, is a surgical operation. In certain cases, the Roentgen ray or radium treatment is preferable. A competent general practitioner can give the patient the proper advice. In its earlier stages cancer is curable by such treatment. It is never cured by medicine. The quack who holds out the hope of a cure by some medicine of his own devising is particularly contemptible and dangerous.—*Kansas City Star*.

NEWSPAPERS THAT FOOL THEIR READERS

Surely, a newspaper which will print an advertisement such as so many of them have been running for the makers of the medicine Tanlac, designed to look to the average layman like news matter, is abusing the confidence of its readers, and it is easy to believe that such practices hurt the paper far beyond the temporary profit they bring.

Presuming for the sake of the argument that Tanlac is a good medicine and will work all the marvels its makers claim for it, can a newspaper afford to fool its readers into believing that advertisements are editorial matter?

There is only one conclusion possible, and that is that when a newspaper stoops to the level of fooling its readers, it lessens the value of its advertising space to all its advertisers, for a newspaper can not deceive its readers and get away with it any easier than a merchant can fool his customers.

The newspapers of this country have made great progress, on the whole, toward cleaner advertising, and, in a few spots, remarkable progress. But when papers in so many sections of the country are still willing to prostitute their real opportunity for the sake of the immediate dollar by deliberately fooling their readers, it does seem they still have a long and weary way to travel before they embrace their truly wonderful opportunity as advertising mediums.—*Associated Advertising*.

BABY WELFARE WEEK

There are 1,727 communities considering some preparation for Baby Week, according to the inquiries received by the Children's Bureau of the U. S. Department of Labor. This number does not include those of whose interest in the campaign word has come to the bureau indirectly.

The letters about Baby Week are still coming in from every state in the Union and from every type of community, such as a Colorado settlement 40 miles from a railroad, a club of women on one of the Government reclamation projects, a Montana coal mining town with a large foreign population, a southern mill village, and a club of farm women in a Middle Western state.

Texas has its own Baby Week slogan—Baby Health is Texas Wealth—and Mississippi has started a competition to secure a slogan for that state. North Dakota reports plans for a state-wide essay contest in the public schools. In a few state campaigns the State Federation of Women's Clubs, the State University Extension Department, the state health officials, and those who are especially interested in education are all cooperating in the Baby Week campaign.

Many large cities are going to have a Baby Week. Definite plans are under way in Albany, Baltimore, Boston, Cleveland, Milwaukee, Minneapolis, Philadelphia, Richmond, San Francisco, Washington and other cities. New York had a successful Baby Week in 1914 and will probably hold another this year in the late spring.

In its suggestions for Baby Week observance the Children's Bureau lays special emphasis on the opportunity it affords for extending permanent work for infant welfare, such as infant welfare stations, visiting nursing, special nursing and instruction for prospective mothers, city inspection of milk, special work for the prevention of blindness, and little mothers' classes and home nursing instruction for school girls in the upper grades.—*Children's Bureau*, U. S. Department of Labor.

"KIDNEY CURES" SEIZED

PREPARATIONS CONTAINING HIGH PERCENTAGE OF ALCOHOL REGARDED AS NOT ONLY WORTHLESS, BUT HARMFUL

WASHINGTON, D. C.

Action against several so-called "kidney cures" has recently been taken under the Food and Drugs Act by the United States Department of Agriculture. In one case the shippers of a preparation labeled as "A Sure Cure for Bladder and Kidney Trouble," were prosecuted on the charge of falsely and fraudulently misbranding the product. They pleaded guilty and were fined \$25 and costs by the court. This particular kidney "cure" was found to contain over 41 per cent. of alcohol. It was labeled "Old Jim Fields Phosphate Dill and Gin, Mankind's Greatest Friend. A Sure Cure for Bladder and Kidney Trouble. It is also a Great Aid in Case of Urinary Trouble. Allenberg & Meister, Sole Agents, Memphis, Tenn." An analysis of the product showed that it contained no material amount of either dill or phosphate.

In another case forty-eight bottles of "Stuart's Buchu and Juniper Compound," prepared by the Stuart Manufacturing Company, Atlanta, Ga., were seized. The court issued a decree of condemnation, forfeiture, and destruction on the ground that the claims on the label were misleading, false and fraudulent. On this label the manufacturers recommended their product as a remedy for a great variety of kidney and bladder diseases and stated that the medicine contained 16 per cent. of alcohol.

THE BOARD REMOVES DR. THOMPSON

Dr. George R. Thompson, superintendent of State Hospital No. 2, St. Joseph, was removed from office by the Board of Managers, February 18. Two of the five members of the board voted against the action of the majority. From newspaper accounts of the trouble it is apparent that political intrigue is responsible for the board's action. State Hospital No. 2 contains 1,700 inmates, requiring about 120 employees of one kind and another entitled to vote. Among them was one who served on the grand jury in 1914 which indicted Dr. U. G. Crandall, a dentist, and Mr. J. I. McDonald, members of the St. Joseph police board, on charges of misconduct in office. Since that time there seems to have been an effort to have this man discharged from the hospital. Not long ago changes were made in the membership of the board and among the new appointees was Edward S. Villmoare of Kansas City, who stated that he was informed of the situation and the declaration made to him that this man would have to go. When Mr. Villmoare talked to Dr. Thompson about the matter Dr. Thompson said the attendant was a faithful and efficient employec and that no reason existed for dismissing him. Another of the new appointees was Judge L. J. Eastin of St. Joseph. He also discussed this attendant with Dr. Thompson and received the same answer given to Mr. Villmoare, and in addition Dr. Thompson stated that he could not permit employces to be hired and fired for personal or for political reasons. The demand was repeated several times, but Dr. Thompson steadfastly refused to discharge the attendant.

Then followed charges against Dr. Thompson, filed by Judge Eastin. In the trial Judge Eastin sat with the board. There were nine specific charges as follows: It is alleged that Dr. Thompson is incompetent and wilfully neglectful; that he has not systematized the work of the institution; that he has ignored and neglected the statutes which require the superinten-

dent to act as the head of the institution; that he conferred large authority on subalterns which does not belong to them; that he would not confer on officers duties required of them; that he failed to hold staff meetings as required; that he permitted without cause patients with tuberculosis to intermingle with other patients; that he disregarded rules which require weekly meetings of the attendants; that he did not enforce rules of discipline and permitted the use of intoxicants on the place; and that by inefficiency and incompetency lost control of the institution and destroyed its discipline.

The only serious charge in this list is of course that of incompetency and wilful neglect. The other charges appear to have been included because there seemed a chance to make some of them stick under the by-laws of the board. The testimony showed that Dr. Thompson was highly competent and managed the institution intelligently and efficiently so far as he was able to do under the by-laws of the board. These by-laws were so constructed as to render the superintendent helpless in the matter of controlling employees, notwithstanding that the state law gives the power of discharge and employment of most of the employees solely to the superintendent.

Dr. Fisher, one of the assistant physicians, testified that he had visited a number of state hospitals in the Middle West and that he believed State Hospital No. 2 was the best managed of any of them in regard to the welfare of the patients. He also testified that the board of managers had interfered with Dr. Thompson's administration of the hospital affairs in such a way as to hamper the efficiency of the service to the patients. Another of the assistant physicians testified that Dr. Thompson was an efficient and capable officer and only one of the assistant physicians testified that Dr. Thompson failed in any way in the management of the institution and this physician was a candidate for the position of superintendent. Several employees testified favorably to Dr. Thompson's record. Those who heard the testimony were of the opinion that the charges were not sustained; nevertheless, three members of the board voted to remove Dr. Thompson and he was dismissed. Dr. J. A. Postlewait of Tarkio, the president of the board, and Mr. Villmoare dissented and filed a protest with Governor Major. Then they both resigned as members of the board. Dr. W. L. Whittington, one of the assistant physicians, was elected superintendent.

The affair aroused the citizens of St. Joseph and brought a storm of protest from several quarters. The Citizens' League, composed of representatives of all sections of St. Joseph, denounced the affair as "a shameful disgrace to the city and state." One of the speakers declared that it was "high time for the voters to correct such a disgraceful evil as besets our state institution, the hospital for the insane. The corruption which results from politics has made pitiable the plight of the poor unfortunates who have lost their reason. It results from controlling the institution by politics instead of by principle."

Rev. Charles Durden, pastor of Patee Park Baptist Church, in a Sunday sermon, advocated removing state hospitals and all eleemosynary institutions from political control. "Our asylums," said Mr. Durden, "should be run for the benefit of the unfortunates who are compelled to go there for treatment and not for the benefit of the political bosses. The physicians who minister to those unfortunates should be specialists in their line, and the nurses and attendants should be correspondingly well trained. Jobs should not be given for political reasons. The superintendent should be the boss of the institution. And once a superintendent is appointed he should be per-

mitted to stay indefinitely, at least long enough to perform some of the work for which he is paid, but for the nonperformance of which he cannot be blamed under the present system."

The St. Joseph *News Press* (independent) characterizes the proceedings as "A Crime Against Humanity." To quote:

"The disgraceful doings at State Insane Asylum No. 2 must deeply move every heart that carries sympathy for the unfortunates whose affliction places them under the roof of that institution. To make a hospital for the insane—poor, miserable and helpless victims of a pitiable mental malady—the theater of a battle, a factional fight is the lowest depth to which unconscionable manipulators, in whom the milk of human kindness seems to have curdled, can descend. The welfare of the state's demented wards depends on the management of the institution to which they are committed. When Governor Major's deputies deliberately turn such an institution into a political bedlam they compound disorder and render the condition of the unfortunate inmates doubly sad. Humanity cries out against such an iniquity! Outraged citizenship revolts at such misuse of authority! The voice of indignation rises in protest to the lips of every wholesome-minded person! Charity reddens with shame! . . . At no time within the history of that institution has there been such a foul and offensive smell of factional, personal and revengeful politics as now. At no time has the work of factional subordinates been so coarse and regardless of decency. At no time has the welfare of the poor, unfortunate inmates been in such jeopardy. The community is startled by the ruthless and predatory invasion of a great institution which has been dedicated by the people of Missouri to a high and noble and humane purpose, which is generously and ungrudgingly supported by public taxation, and which, by the laws of benevolence and good intention, should be sacred and immune from such depredations as this."

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL, 1916

(UNDER THIS HEAD WE LIST THE SOCIETIES WHICH HAVE PAID THE STATE ASSESSMENT FOR ALL THEIR MEMBERS)

Webster County Medical Society, Dec. 15, 1915.
Benton County Medical Society, Dec. 16, 1915.
Cape Girardeau County Medical Society, Dec. 19, 1915.
Schuyler County Medical Society, Dec. 22, 1915.
Atchison County Medical Society, Dec. 27, 1915.
Clark County Medical Society, Jan. 1, 1916.
Madison County Medical Society, Jan. 10, 1916.
Clinton County Medical Society, Jan. 11, 1916.
Sullivan County Medical Society, Jan. 17, 1916.
Phelps County Medical Society, Jan. 17, 1916.
Camden County Medical Society, Jan. 18, 1916.
Dent County Medical Society, Jan. 31, 1916.
Barton County Medical Society, Feb. 3, 1916.
Moniteau County Medical Society, Feb. 7, 1916.
Henry County Medical Society, Feb. 21, 1916.
Putnam County Medical Society, Feb. 24, 1916.
Pulaski County Medical Society, Feb. 28, 1916.
Vernon County Medical Society, Mar. 3, 1916.
Ste. Genevieve County Medical Society, Mar. 15, 1916.

MISSOURI STATE MEDICAL ASSOCIATION

Annual Session, Excelsior Springs,
May 8-10, 1916

PRELIMINARY PROGRAM

ST. LOUIS

Walter Baumgarten: The Remote Results Following Splenectomy in Three Cases of Pernicious Anemia.

E. P. Buddy: Dilatation of the Heart.

George W. Cale: Syphilis of the Stomach.

Robert M. Funkhouser: Title to be announced.

William W. Graves: Some of the Factors Tending Toward Accuracy in Diagnosis.

Phelps G. Hurford: Sporadic Meningitis in Children.

C. E. Hyndman: Observations in Two Hundred Routine Fracture Cases with Roentgen-ray Demonstrations.

George Richter: Diagnostic Respiration Tracings.

Francis Reder: Stomach Troubles; Their Significance.

Robert E. Schlueter: Title to be announced.

S. B. Scholz, Jr.: The Medical Service of Life Insurance.

M. G. Seelig: Some Points in the Technic of Cholecystectomy.

J. J. Singer: Roentgen-ray Interpretation of Pulmonary Tuberculosis.

H. Unterberg: Paresis, Tabes and Salvarsan.

KANSAS CITY

Jabez N. Jackson: Title to be announced.

E. B. Knerr: Raw Starch in the Treatment of Diabetes.

V. W. McCarty: Indications for Tonsil and Adenoid Operations in Children.

E. G. Mark: Carcinoma of the Prostate.

Ernest F. Robinson: Transplantation of Bone in Ununited Fracture.

William K. Trimble: The Relations of the Various Specific Reactions of the Treatment of Syphilis.

STATE AT LARGE

William S. Allee, Olean: Public Service Obligations of a Physician. How May They Best Be Met?

William L. Brosius, Gallatin: Selective Effect of Irradiation.

J. Q. Cope, Lexington: Title to be announced.

T. R. Frazer, Commerce: Title to be announced.

J. J. Gaines, Excelsior Springs: Subdermal Medication.

J. M. Hale, Dearborn: Tetanus; A Report of Three Cases.

E. F. Higdon, Richmond: Cystitis.

Herman S. Major, Fulton: The Importance of an Early Diagnosis of Dementia Praecox.

David Nowlin, Montgomery City: Title to be announced.

A. H. Thornburgh, West Plains: Title to be announced.

Guy Titsworth, Sedalia: Title to be announced.

F. M. Vessells, Perryville: Vaccination in Smallpox; with illustrations of some recent cases.

W. E. Yount, Cape Girardeau: Title to be announced.

PROCEEDINGS OF THE WASHINGTON UNIVERSITY MEDICAL SOCIETY

Twenty-Fourth Meeting, Nov. 8, 1915

1. EXHIBITION OF CASES.

2. ARTERIAL SOUNDS WITH SPECIAL REFERENCE TO THE COMPRESSION SOUNDS OF KOROTKOFF.—By DR. JOSEPH ERLANGER.

This paper concerns itself with the origin of the sounds yielded by an artery below a local compression of the kind conveniently used for the purpose of determining the arterial pressures in man. The experiments were performed for the most part on dogs. All the branches of the ileofemoral artery were ligated and cut, and to this straight, unbranched artery a compression chamber and a sphygmograph were attached. By means of Frank mirror capsules the compression pulse in the former and the peripheral pulse and sounds in the latter were recorded while listening to, and signaling, the sound phases. The sounds yielded by this bare artery are similar in intensity and character to those heard in man. Consequently the view of Flack, Hill and McQueen that the armlet converts the compressed area (of the arm) into a resonating mass and causes the whole tense mass to vibrate, is untenable. Occluding the artery, either where it emerges from the compression chamber or any distance below, alters the Korotkoff sounds only immaterially. Consequently the explanation of sound production given by Korotkoff, Ehret and most others, as being due to the entrance of the pulse into an empty artery can no longer be held. The action of the air chamber as a resonator is not a factor in the production of sounds. The observations by which Gittings was led to believe it to be a factor are shown to be open to a wholly different interpretation.

The present experiments afforded proof for the view that the Korotkoff sounds are produced by a water hammer; the opening of the compressed artery by the pulse permits a relatively large amount of blood moving with considerable velocity to strike the stationary column of blood in the uncompressed artery below, thus producing the sounds. This view is borne out by all the observations we have made, from among which may be mentioned the form of the peripheral pulse, the time relations of the sounds to it, the form of the compression pulse, the time relations of the sounds to it, the variations in the intensity of the sounds with the gradient of the initial rise of the compression pulse, the location of the loudest sounds, the location of the sensation in the arm, etc. The applications of the water-hammer theory in practical sphygmomanometry were considered in relation to: (a) the size of the air chamber; (b) length of the artery compressed; (c) the bore of the artery; (d) extensibility of the artery (e) viscosity; (f) the arterial pressure; (g) amplitude of the pulse pressure, and (h) the gradient of the pulse pressure.

DISCUSSION

DR. ROBINSON: It seems to me that it is of great interest to have a phenomenon, that we as clinicians study every day, explained and put on an experimental basis. The method of taking the blood pressure by auscultation forms one of the most valuable additions to clinical medicine. Dr. Erlanger offers what seems to be conclusive evidence that the previous ideas as to the mechanism of the sound production were incorrect.

3. IMMUNE-REACTIONS AGAINST TUMOR GROWTH IN ANIMALS WITH SPONTANEOUS TUMORS.—By DR. LOEB AND DR. FLEISHER.

(From the Department of Comparative Pathology, Washington University, and from the Department of Pathology, Barnard Free Skin and Cancer Hospital, St. Louis.)

While the conditions determining the growth of tumors in experimentally inoculated animals have been studied extensively, the conditions underlying the growth of tumors in animals with spontaneous tumors are to a great extent as yet unknown. It is clear that an analysis of these factors in the latter class of animals is of special theoretical and indirectly also of practical interest, inasmuch as such animals correspond to human beings affected by cancer. The following investigations are intended as a contribution to the analysis of this problem.

SUMMARY OF RESULTS

1. Mice with spontaneous tumors are not so good a soil for the growth of transplantable tumors as normal controls. This is probably due to secondary conditions connected with the development of spontaneous tumors, as age and perhaps the effects of tumor growth on nutrition.

2. Certain mechanisms which inhibit in normal mice the growth of a transplantable tumor have the same effect in mice with spontaneous tumors. One of these mechanisms may perhaps consist in the production of certain immune substances.

3. In confirmation of our previous results we found that autotransplantation of spontaneous tumors succeeds in the large majority of cases, while a successful homoio-transplantation into normal mice is much more rare. The growth energy of the successfully transplanted tumors is approximately the same in the control mice as in the mice in which the tumor originated. The increase in growth energy after transplantation is to a great extent due to mechanical stimulation of the tumor during the process of transplantation. Those spontaneous tumors can on the whole most readily be transplanted which show the greatest potential growth energy.

4. Further investigations confirm our previous conclusion that mice with spontaneous tumors are a better soil for the growth of the ordinary spontaneous, otherwise not readily transplantable tumors, than normal control mice. Those tumors can usually be successfully transplanted into normal mice which can also most readily be transplanted into mice with spontaneous tumors. The average growth energy of these ordinary spontaneous tumors which could be transplanted with some difficulty is considerably less than that of our readily transplantable tumor No. IX. We may therefore conclude that a relatively great potential energy of growth is one of the factors which favors a great transplantability.

5. Spontaneous tumors grow best in animals in which they originated as a result of two factors: (a) Certain specific conditions present in an animal in which a tumor originated are more favorable to tumor growth than those present in normal mice with or without transplanted tumors. (b) The identity of the body fluids which surround the tumor cells before and after transplantation and the specific adaptation between tumor cells and body fluids.

6. In animals with spontaneous tumors as well as in normal control animals the extirpation of a transplanted tumor makes clear the presence of immune substances or of immune mechanisms which had been produced through the growth of the transplanted tumor. A spontaneous tumor does not therefore pre-

vent the production of immune substances or immune mechanisms.

7. After extirpation of spontaneous tumors, substances or mechanisms which seriously antagonize the growth of an ordinary transplantable tumor or of the autotransplanted, spontaneous tumor are not demonstrable. Spontaneous tumors, in contradistinction to transplanted tumors, do not produce in any considerable quantity immune substances comparable to those produced by the ordinary transplanted tumor; neither do spontaneous tumors neutralize immune substances produced through the growth of transplantable tumors.

4. INITIAL LENGTH, INITIAL TENSION AND TONE OF AURICULAR MUSCLE IN RELATION TO MYOCARDIODYNAMICS AND CARDIODYNAMICS.—BY DR. ROBERT GESELL.

The relation of initial length, initial tension and tone of auricular muscle to myocardiodynamics and cardiodynamics was studied.

Records of auricular tension and auricular volume were made with the auricle contracting under isometric and isotonic conditions.

A method permitting variation of either initial length or initial tension, keeping, respectively, initial tension and initial length constant, was described. In connection with this method a maximum, minimum and mean value was devised.

With this method it was shown that with constant initial tension increase of length of fiber increases the efficiency of the auricle to develop tension or perform work.

The enhancing effect of initial tension on isotonic contractions is indicated by an increasing volume output and final tension accompanying the late decrease in length of fiber following a sudden increase of initial tension.

The effects of variation of initial tension on final tension developed under isometric conditions were varied, indicating but not proving that initial tension under these conditions has a specific effect on the efficiency of muscular contraction.

The mechanism by which increased initial tension increases auricular efficiency was discussed.

Increased length of fiber, increased initial tension and increased resistance to contraction increase the maintenance of any given tension.

Tension or stretching is the adequate stimulus for the production of tone.

In regard to the relation of auricular systole to ventricular efficiency, the results show the properties of auricular muscle to be such as to assure good ventricular filling.

Granted that auricular systole increases ventricular filling, the ratio of increase of ventricular volume to the increase of ventricular surface (length of fibers) is such that the amount of blood ejected per unit length of muscle shortening increases with the increase of volume.

In consideration of this surface volume relation and of the fact that increased efficiency of muscular contraction accompanies an increased length of fiber, the beneficial effect of auricular systole becomes all the more evident.

In addition, auricular systole increases ventricular efficiency by storage of its own force of contraction, as potential energy in the ventricular wall. It increases the force of ventricular contraction by virtue of the presystolic tension it produces.

DISCUSSION

DR. ERLANGER: It is important, however, to call attention to the fact that by this method which Dr. Gesell has instituted he has succeeded in isolating

two factors which hitherto physiologists have not been able to study separately, namely, the tension length and the other factor of effect on the contraction of the muscle fiber. That is, perhaps, from the physiologist's point of view, from a purely academic point of view, the most important contribution that he has made. On the other hand, of course, the practical application in the effect that tension length and initial tension has on the work which the heart can do is also of some significance.

ST. LOUIS MEDICAL SOCIETY

Meeting of the General Society, February 26

The meeting convened at 8:50 p. m., the president, Dr. L. C. Boisliniere, in the chair.

The scientific program consisted of the following:

Diabetes Insipidus, by Dr. George Richter. Discussion opened by Dr. Edward Buddy and continued by Drs. David S. Booth, Joseph Grindon and Samuel E. Peden; Dr. Richter closing.

A paper on Bronchial Asthma by Dr. Orville H. Brown. Discussion by Dr. George Dock; Dr. John C. Morfit and Dr. William C. Bryan being absent when called on; Dr. Brown closing.

Dr. Boisliniere announced the gift by Dr. Harvey G. Mudd of portraits of the following:

1. A group of Autographed Portraits of the Faculty of the St. Louis Medical College in 1871.

2. A picture of Ephraim McDowell and monument at Danville, Ky.

3. Portrait of Dr. Walter Wyman, former Surgeon-General United States Public Health Service.

4. Picture of the St. Louis Medical College and Faculty about 1871.

5. Portrait of John McDowell, son of Nash McDowell, former professor of anatomy, St. Louis Medical College.

6. Etching of Dr. Hodgen.

On motion a vote of thanks was extended to Dr. Mudd for these gifts.

Dr. Kane offered the following resolutions:

WHEREAS, Modern dentistry is an aid in the prevention and cure of many grave constitutional diseases as well as in the maintenance of general health, and

WHEREAS, The character of wounds about the hand and face inflicted by modern implements of war makes the services of competent dentists an indispensable aid to the Army Surgeon in time of service, and

WHEREAS, The efficiency of the Army both in times of peace and war depends primarily on the physical fitness of its members, therefore be it

Resolved, That the St. Louis Medical Society heartily endorses the action of the National Dental Association in seeking such legislative enactments as will offer inducements to the better class of dentists to enter the Federal Service, and be it further

Resolved, That it petitions Missouri representatives in both branches of our National Assembly to support the efforts of the National Dental Association to secure three additional grades in the Dental Corps of the United States Army.

These resolutions were unanimously adopted.

Attendance, 112.

Meeting of March 4

The meeting convened at 8:45 p. m., Dr. William H. Stauffer, the second vice president, presiding. The minutes of the meeting of February 26 were read and approved.

SCIENTIFIC PROGRAM

The Nature and Importance of Baby Welfare Week, by Dr. Louis Boonschaft.

This being a clinical evening, the following cases and specimens were exhibited:

CASES

Sarcoma of the Sternum, by Dr. C. E. Wobus. Discussion by Dr. J. S. Young.

Syphilitic Torticollis, by Dr. William Edler.

Mastoid Infection (Bezold's Abscess); Hemoptysis (Ulcer of Esophagus), by Dr. E. Lee Myers.

Cultures of Tubercle Bacilli; Demonstration of Living Ameba, by Dr. George Ives.

Extrophy of the Bladder, by Dr. J. Leland Boogher.

Instrument for Suprapubic Stab-Wound, by Dr. Francis Reder.

Primary Mediastinal Tumor, illustrated with specimen and lantern slides, by Drs. Lawrence Schlenker, John McH. Dean and Charles W. Schery.

SPECIMENS

Roentgen-Ray Plate, Sarcoma of the Lung, Dr. Howard Carter.

Roentgen-Ray Picture, Supernumerary Rib, Dr. Samuel E. Peden.

Adenocarcinoma of Rectum—Operative Technic (Specimens and Lantern Slides), by Dr. William H. Stauffer.

Meeting of the Council, March 8

The meeting convened at 8:40 p. m., Dr. L. C. Boisliniere presiding.

The minutes of the previous meeting were read and approved.

The following communications were read by the chairman:

A letter from Mr. Morton Jourdon relative to that part of our constitution and by-laws having to do with the disciplining of our members.

A letter from the Secretary of State, Cornelius Roach, relative to our charter. On motion, the president was authorized to secure a certified copy of the charter of the Society at an expenditure of \$6.

Other letters were from Drs. Oscar L. Howard and H. O. Bell announcing their departure from the city and offering their resignations; on motion the resignations were accepted.

A letter from Dr. R. E. Hogan announcing his removal to Westplains, Mo., and asking for a transfer card. On motion the transfer was ordered issued.

A letter from the Civic League relative to an increase of the membership dues from \$2 to \$5. On motion the membership dues were ordered continued at \$2.

A letter from the St. Louis Convention and Publicity Bureau was received and filed.

A letter from Dr. Koetter offering his resignation from the Publicity Committee. On motion it was accepted.

Dr. Charles S. Rehfeldt, chairman of the Membership Committee, reported favorably on the following applicants:

Edmond Bechtold, Barnes Hospital; Gustav H. Reinhardt, 3548 S. Grand Avenue. These applicants were unanimously elected by ballot.

Dr. Gayler reported for the Program Committee announcing that Dr. William Healy of Chicago, would be the guest of the Society, Saturday evening, April 1.

Dr. Baldwin, chairman of the Committee on Health and Public Instruction, submitted among other things the following:

A series of communications by Miss Hildebrandt asking that the St. Louis Medical Society endorse the giving of lectures on sex hygiene to mothers' clubs

of certain schools. The committee asked the Council to assume responsibility of an answer to this letter.

On motion the endorsement of the Council was denied.

Dr. Robert M. Funkhouser submitted the following report for the Bartscher Fund Committee:

To amount in bank (with interest for Jan.)..\$537.99
To amount collected February, 1916, Coupon of

Consumers Brewing Co..... 25.00
To amount of bank interest..... .80

Total\$563.79

The committee recommends that the notes of Elizabeth & A. Rosen to the amount of \$2,500 which falls due April 4, and that of Mathers-Coe to the amount of \$2,800 which falls due April 9, be renewed; that the note of John F. Brinkmeyer to the amount of \$1,500 which falls due May 27, be not renewed.

On motion the report with recommendations, was adopted.

The following recommendation of the Committee on Ethics was adopted:

Attention has been brought to the Committee on Ethics of an advertising scheme promoted by a daily paper. Only doctors who pay for listing will be given space in the book. The committee feels that this is not in accordance with the spirit of the Principles of Medical Ethics of the American Medical Association and is, therefore, distasteful.

Members are, therefore, counseled to prohibit the appearance of their names in this so-called directory and any who, misled by the restricted character of this book, have thoughtlessly consented to the appearance of their names in this proposed publication, should immediately cancel their agreement.

WM. C. KERWIN, Chairman,

PERCY FARMER,

EDWARD P. BUDDY,

Committee on Ethics.

On motion the recommendation of the Ethics Committee was adopted.

The Ethics Committee asked for a ruling on the following question: Is an oculist privileged to send out cards advising his patients to have their eyes attended?

The Council disapproved of oculists sending cards to patients advising annual examinations.

Dr. Tooker, chairman of the Committee of Censors, submitted the following report on the Bransford Lewis publicity.

To the Council of the St. Louis Medical Society,
St. Louis.

Gentlemen: We, the Committee of Censors, find Dr. Bransford Lewis guilty as charged and assess the penalty of suspension from membership in the St. Louis Medical Society until Sept. 1, 1916.

Respectfully submitted,

Committee of Censors.

(Signed) CHARLES W. TOOKER,

D. E. SCHMALHORST,

D. BUIE GARSTANG.

On motion the report was affirmed.

Dr. Schlueter, chairman of the Library Committee, submitted the following report:

The Library Committee begs to report that the assistant recently employed is helping Miss Eby every afternoon. The work of cataloging the library is progressing. At present there have been cataloged all books on anatomy, physiology, hygiene, public health, materia medica and therapeutics, almost all on chemistry and about one half of those on pathology. Recent additions will, as heretofore, be displayed on a shelf in the reading room.

Respectfully submitted,

ROBERT E. SCHLUETER, Chairman.

The chair announced the appointment of Dr. J. Albert Seabold as editor of the Bulletin.

On motion the House Committee was authorized to obtain bids for railing to subdivide parlor and office space and submit report at next meeting.

Dr. Bliss reported the increase of the telephone rates from \$114 a year to \$132. On motion the president was authorized to enter into a new contract with the Bell Telephone Company.

On motion the president was authorized to procure bond for the treasurer and stenographer to the amount of \$2,000 to be divided equally between them.

It was moved and seconded that the dues of the Missouri State Medical Association be considered a fixed charge. Carried.

Councilors present: Drs. Bliss, Burford, Grindon, Hamel, Hurford, Kanc, Koetter, Kuhlmann, Richter, Schlueter, Thompson, Boisliniere and Seabold. Councilors absent: Dr. Emmett P. North.

TENTATIVE PROGRAMS

Saturday, April 1, 1916: Medical and Psychological Aspects of the Problem of Juvenile Delinquency, by Dr. William Healy, Chicago (by invitation).

Saturday, April 8, 1916: Indications and Contraindications for Surgical Operations During Pregnancy, by Dr. Francis Reder. Treatment of Coliculi, by Dr. Claude Pickrell.

Saturday, April 15, 1916: Symposium on Intestinal Stasis. 1. Anatomy, by Dr. Augustus G. Pohlmann. 2. Roentgen Ray, by Dr. Edwin C. Ernst. 3. Diagnosis, by Dr. William Engelbach. 4. Neurology, by Dr. Hillel Unterberg.

Saturday, April 22, 1916: Symposium on Intestinal Stasis (continued). 1. Drugs, by Dr. Warren P. Elmer. 2. Diet, by Dr. Charles H. Neilson. 3. Surgery, by Dr. Francis Reder. 4. Use of Sigmoidoscope, by Dr. Horace W. Soper. 5. Physical Therapy, by Dr. F. H. Ewerhardt (by invitation).

Saturday, April 29, 1916: The Roentgen Ray in the Diagnosis of Duodenal Ulcer (with lantern slide illustration), by Dr. R. Walter Mills.

Saturday, May 6, 1916: Certain Factors of Safety in Surgery, Suggested by a Study of One Hundred Consecutive Operations, by Dr. Willard Bartlett. Enormous Hernias, by Dr. Walter Hewitt.

Saturday, May 13, 1916: Symposium on Tobacco, by Dr. L. H. Behrens and others.

Saturday, May 20, 1916: Symposium on Mental Hygiene. The Functions of the Observation Ward in the Care of the Insane, by Dr. Malcolm A. Bliss. The Hospital for the Insane and the Mental Hygiene of the Community, by Dr. George A. Johns, superintendent of the St. Louis City Sanitarium. The Mental Clinic and the Social Service in the Care of the Insane in Their Homes, by Dr. Francis M. Barnes, Jr. Discussion by Mr. Emil N. Tolkaez, director of the Public Welfare, and Dr. Cleveland H. Shutt, Hospital Commissioner.

J. ALBERT SEABOLD, M.D., Secretary.

THE BARNARD FREE SKIN AND CANCER HOSPITAL CLINICAL AND LABORATORY REPORTS

8. PRIMARY SARCOMA OF THE SPLEEN.—By DR. H. N. LYON.

The spleen is rarely the site of metastatic growth, and it is still more unusual to find malignant tumors having their origin primarily in the spleen. A review of the cases of primary sarcoma of the spleen reported in literature shows that the morphology of the tumor is usually that of a round cell, or lymphosarcoma. This was true in the present case of primary sarcoma of the spleen which occurred in a man 54 years old. He was a furrier by trade and gave a history of good

health until the onset of the abdominal condition for which he came to the hospital. Four months ago the patient noticed that his feet began to swell and soon after he began to lose weight and strength. Four weeks before entrance to the hospital he noticed for the first time that his abdomen was prominent and he felt on his left side a large hard mass. This tumor had never given him any pain, although it was tender in several places. He has experienced the sense of tenseness in his abdomen, and at night has complained of hot and cold flushes. His bowels have been constipated.

The patient was a greatly emaciated man, middle-aged, quite anemic and looked extremely ill. His spleen was very much enlarged and projected as a notched mass almost to Poupart's ligament. In both inguinal regions were prominent glands which rapidly increased in size during the patient's stay in the hospital. Small masses above the clavicle and in the axilla were also found. The blood count showed 8,200 leukocytes, 2,400,000 red blood cells and hemoglobin, 45 per cent.; the differential count was approximately normal. An excision of gland tissue from the inguinal region showed microscopically a round cell sarcoma.

The patient's condition grew progressively worse, and he died four weeks after admission to the hospital. At necropsy the spleen was found symmetrically enlarged, weighing 3,700 grams, and was studded with a large number of irregular white masses of tumor. The lymph glands of the mesentery were moderately enlarged and to a large extent were replaced with tumor tissue. The posterior mediastinal glands, bronchial glands, as well as the cervical and inguinal, showed the presence of metastasis. The liver showed a few small nodules. Microscopically, the tumor consisted of round or oval cells supported by a delicate connective tissue stroma. The tumor cells presented a large nucleus rich in chromatin and surrounded by a rim of abundant cytoplasm. Mitotic figures were present in large numbers.

9. MULTIPLE CARCINOMA.—By DR. GEORGE M. SMITH.

Ribbert has classified the occurrence of multiple carcinoma in the same patient into two large general groups. In the first group are found multiple cancers occurring in the same system of organs caused by apparently the same factors, such as a multiple epitheliomata of the skin following senile changes in the skin, multiple epithelioma of the skin due to Roentgen rays. In the second group are found all cases in which several tumors exist in the same organ or different organs caused apparently by different factors and exhibiting frequently wide differences in morphology. Thus carcinoma of the intestines has been associated with epithelioma of the tongue and palate. Carcinoma of the ovary has occurred synchronously with carcinoma of the gallbladder; epithelioma of the esophagus has been found in patients who also showed carcinoma of the colon. In general, it may be stated that, although a large number of cases of multiple carcinoma have been described, it is a noteworthy fact that the combinations of tumors found are widely different and that the same combination appears only at rare intervals.

In the present case the patient exhibited an epithelioma of the scalp and carcinoma of the breast. She was 33 years old. Thirteen years ago the patient had smallpox which left a small lump on her scalp. This began to increase in size about six months ago, and a month before admission to the hospital, had broken down and grown very rapidly. She presented a large fungating epithelioma of the scalp which was situated on the right side near the median line over the posterior part of the parietal bone. The condition in the breast followed the birth of her last child two years ago. She was the mother of six other children, all

at the present time in good health. In the lower part of the right breast there was found a small mass about 1½ centimeters in diameter, lying in the tissue of the breast below the skin and slightly attached to the skin. There was no enlargement of the axillary glands. The patient was operated on, and the epithelioma of the scalp was removed by a wide excision. The tumor tissue had extended down to the periosteum of the bone. A skin graft was done to cover the defect. A week later the right breast was amputated and a small scirrhous carcinoma was found, 2 cm. in diameter. Microscopically the breast tumor was a scirrhous carcinoma; whereas the tumor of the scalp was a squamous cell epithelioma exhibiting typical "pearls." The wide difference in the morphology of the tumors excluded all possibility that one of the tumors was of a metastatic nature.

BATES COUNTY MEDICAL SOCIETY

The Bates County Medical Society held its regular monthly meeting Thursday afternoon, February 24, in the office of Dr. T. C. Boulware, Butler. As usual with meetings at this time of the year when the weather is unfavorable and the roads are bad the number in attendance fell far below the average, but the program as outlined was carried out and enjoyed by all.

Those present were Drs. T. C. Boulware, T. F. Lockwood, E. G. Zey, E. N. Chastain and J. S. Newlon.

The president, Dr. C. J. Allen, being absent, the meeting was called to order by the vice president, Dr. T. C. Boulware. The minutes of the previous meeting were read and approved.

Dr. T. F. Lockwood read a most interesting paper on "The Treatment of Hemorrhoids," which was freely discussed by every one present.

It was moved and seconded that every member be assessed 50 cents to cover the expense of purchasing flowers for the funeral of Dr. Sherman Miller. Motion carried.

A letter was read by the secretary from Mrs. Sherman Miller expressing her thanks and appreciation to the society for the resolutions pertaining to the death of her husband.

There being no other business, the society adjourned to meet March 30.

J. S. NEWLON, M.D., Secretary.

BENTON COUNTY MEDICAL SOCIETY

The Benton County Medical Society meeting was held in the office of Dr. Dillon, Dec. 17, 1915, with the president, Dr. J. A. Logan, Fairfield, in the chair. The meeting was called to order at 10:30 a. m. and the regular order of business followed.

Dr. E. J. Goodwin, our State Secretary of St. Louis, was present and read a very interesting and profitable paper on "The Physician and His Duties from a Financial Point of View," which was excellently gotten up and ought to have been heard by every member of the society. The doctor also gave us some very timely information and heart-to-heart talk, which was received by those present with great profit.

After the reading of the paper the meeting adjourned to the Bennet Hotel, where a turkey dinner was prepared for our enjoyment. Those present were Dr. E. L. Rhodes, Lincoln; Dr. J. A. Logan, Fairfield; Drs. Marion Dillon, H. G. Savage and J. R. Smith, Warsaw, with Dr. E. J. Goodwin, St. Louis, from the State Association.

Dr. Goodwin's presence was greatly appreciated, and our only regret was that every member was not present to enjoy and profit by his presence and store of information.

Meeting of February 17

The regular meeting of the Benton County Medical Society was held in Lincoln, Thursday, February 17, with Dr. T. S. Reser, Cole Camp, president, in the chair.

An unusually interesting clinic was furnished by the Lincoln doctors and was thoroughly examined by those present while waiting for the train from the south part of the county to bring in other attendants at the meeting.

The meeting was called to order at 11:30 a. m. and owing to lack of time, the reading of the minutes of the last meeting was dispensed with and business of importance was taken up at once.

Dr. N. A. Schwald's application which has been pending was accepted by a unanimous vote. Dr. G. A. Greeson's application for membership was also accepted by acclamation.

The secretary was instructed to notify Dr. B. F. Windell, Ionia, that his dues must be paid in order to complete his application which was accepted by the society in December, or his membership would cease.

The case of indiscriminate liquor prescription writing by one of our members was brought up and the president and members of the society signed a petition asking the State Board of Health to be lenient in his case because he gave a pledge that he would not commit the same offense again, and because we knew that he did not write these prescriptions with wilful intent to break the law, for the doctor is one of our best and most worthy members.

The reading of Dr. Reser's paper, which he prepared for this meeting, was also laid over for the next meeting.

Three very interesting cases were presented for clinical study: Mr. A. with stricture of the esophagus of several years' standing, caused by swallowing some lye. At times this stricture destroys the effort to swallow. Dilatation gives relief.

Mr. B., a typical case of jaundice from obstruction of the gallbladder of four months' standing, was advised to undergo a surgical operation for relief.

Mr. C., a man aged 65 years, who had previously been operated on for appendicitis and for obstruction of the pylorus and of the stomach, is having a recurrence of growth with possible malignant condition, which is more than probable.

The next regular meeting will be held in Warsaw in April. Those present were Drs. T. S. Reser, Harry Bey, Cole Camp; Drs. E. L. Rhodes, O. L. Cuddy and S. O. Stratton, Lincoln, and J. R. Smith, Warsaw.

J. R. SMITH, M.D., Secretary.

BUCHANAN COUNTY MEDICAL SOCIETY

The regular meeting of the Buchanan County Medical Society was held at their rooms Wednesday evening, March 1, the president, Dr. Charles Geiger, in the chair, and thirty-two members present. The minutes of the previous meeting were read and approved. The president announced his appointments for physicians, oculists and dentists to serve during Baby Week, March 16, from 10 a. m. to 2 p. m.

The following committee reports were made:

Public Health and Legislation Committee, Dr. Beck, chairman, announced on the Sutton Hospital as follows: After consultation with the board of health the conclusion was arrived at that at present no laws exist covering lying-in or similar institutions and that they had a perfect right to exist provided they complied with the law in other respects. Dr. Beck suggested that regulations for the control of hospitals of this character should be enacted.

The Program Committee, through Dr. Conrad, reported that they had papers enough to fill the program until the vacation interim and requested contributions for the balance of the year.

The Medical Service Committee, through Dr. Morton, reported a complete victory on the part of our society in the controversy regarding exclusive employment of members of the Buchanan County Medical Society for first aid lectures at the Y. M. and Y. W. C. A.'s.

The Membership Committee, through Dr. Bansbach, reported that they were going after all ethical members of the profession in this county who are not members of our society.

The president discharged the additional committee appointed to assist the Public Health and Legislation Committee for consultation, advice, etc., with the city board of health in contagious diseases.

The special committee for taking charge of the entertainment of the Missouri Valley Medical Association reported through their chairman, Dr. F. H. Spencer, the progress that had been made and promised a complete report at our next meeting.

A motion was made and carried that this society take out twenty-five memberships in the St. Joseph Buchanan County Good Roads Association and as these memberships are taken up and reimbursed by doctors of our society, membership cards in the aforesaid organization are to be issued to the parties paying \$1 for each membership.

A motion was made by Dr. Morton and carried that the Program Committee be instructed to arrange a joint social meeting of the Buchanan County Medical Society and the St. Joseph Dental Society.

At the request of Dr. Morton, Health Officer Dr. Beard was invited to explain his method of diagnosis of scarlet fever and outline his method of fumigation and release of quarantine after patients had recovered from the disease and other members of the household who had been quarantined on account thereof.

Dr. B. W. Toothaker read a very interesting paper on "Erythema Nodosum," which was discussed by the following members: Drs. Kenney, Morton and Dandurant; Dr. Toothaker closing.

Meeting of March 15

The regular meeting of the Buchanan County Medical Society was held at their rooms Wednesday evening, March 15, with Dr. Charles Geiger in the chair. There were thirty-eight members present. The minutes of the previous meeting were read and approved.

The application for membership in this society of Dr. Joseph I. Mays was read and in accordance with our by-laws, action thereon deferred until the next meeting.

This being a scientific session, no business was transacted and the following papers were read:

"Conduct of Normal Labor," by Dr. A. L. Gray.

"Anesthesia and Its Relation to Surgery," by Dr. E. A. Miller.

Discussion on these subjects by Drs. H. S. Conrad, Caryl Potter, Floyd Spence, E. A. Gummig, F. G. Beard, F. Eliseu, and J. H. Roncy.

W. F. GOETZE, M.D., Secretary.

CAPE GIRARDEAU COUNTY MEDICAL SOCIETY

The Cape Girardeau County Medical Society held its regular monthly meeting at Jackson in the county court room. There were eight members present and one visitor, Dr. Duval. The usual routine business was transacted after which the following program was carried out:

Dr. Hays gave a good talk on interesting points in meningitis and reported numerous cases from practice.

Dr. Seibert read a paper on influenza which created a good discussion.

Dr. Schulz reported a case of ulcer of the leg with diseased fibula and an amputation was performed—specimen presented.

Dr. Wichterich read a paper on "Physical Signs of Pulmonary Tuberculosis in its Incipency." This was a good paper and will be sent to THE JOURNAL for publication.

E. H. G. WILSON, M.D., Secretary.

CLAY COUNTY MEDICAL SOCIETY

The Clay County Medical Society met in Liberty, Monday evening, February 28, to participate in a sumptuous banquet at the Major Hotel, which had been provided by the big-hearted Liberty doctors, and to which our wives were invited as well. Of course there was a large attendance for that's the way the Clay County Medical Society performs. The large tables in the spacious dining room were decorated with carnations, and well, it was a Liberty feed.

After the conclusion of the dinner, Dr. E. F. Robinson of Kansas City gave a stereopticon lecture on "Bone Repair." More than a hundred excellent views illustrating the text were shown and the interest was profound. The doctor has done much original investigation in bone surgery. Slides showing transplantation of sections of the tibia in repair of the ulna were many and results highly gratifying.

A vote of thanks was unanimously tendered Dr. Robinson and also to the Liberty members for such a pleasant and profitable meeting.

The next meeting will be at Exeelsior Springs the last Monday evening in March. No progressive physician can afford to miss these meetings. We still have some delinquents among our best men. We are compelled to drop men from the roster if dues are not paid. Who is the man who can't get a dollar's worth of good from twelve such meetings as the Clay County Medical Society affords?

J. J. GAINES, M.D., Secretary.

DUNKLIN COUNTY MEDICAL SOCIETY

The Dunklin County Medical Society met in regular session in the Commercial Club rooms at Kennett, March 7, 1916. The meeting was called to order by the president, Dr. Tipton, and the minutes of the last meeting read and approved.

Dr. Matlock reported a case of multiple abscesses of uncertain origin. It was discussed by all present.

Malarial hematuria was taken up in open discussion and points of interest in the treatment considered.

The members on the program for the evening were both unavoidably absent, so we had no regular topics for discussion.

A letter from the Committee on Scientific Work requesting one of our members to read a paper at the meeting in Exeelsior Springs, was read.

E. F. HARRISON, M.D., Secretary.

GRUNDY COUNTY MEDICAL SOCIETY

The Grundy County Medical Society met Jan. 30, 1916, at Trenton, with the president, Dr. O. R. Rooks, in the chair.

After a short business session Dr. Flavel B. Tiffany, Kansas City, read a paper describing a trip he had recently taken around the world, giving an instructive account of things medical, including hospitals, eye cases and the method of treatment in various countries. Dr. Tiffany was in Trenton visiting friends and at our request came up to the meeting and read the paper. It was very much appreciated by all present.

E. A. DUFFY, M.D., Secretary.

HENRY COUNTY MEDICAL SOCIETY

The Henry County Medical Society met in regular session Wednesday, March 8, 1916, in the High School Building, Clinton, Mo., being called to order at 2:20 p. m. by Vice President W. R. Campbell. Members present, Drs. Campbell, J. H. Walton, M. E. Bradley, G. W. Berry, A. E. Derwent, J. R. Wallis, N. I. Stebbins, W. H. Gibbins, R. D. Haire, S. A. Poague, B. B. Barr, S. W. Woltzen and F. M. Douglass. The minutes of the previous meeting were read and approved.

The Baby Week program as arranged was to be opened by Dr. E. C. Peelor, but he was not present and Dr. M. E. Bradley of Windsor made the first talk. His subject was the care of the child. He gave us his treatment from birth to 3 months old, which was interesting and entertaining. He not only spoke of what is in common use, but had some new ideas which were interesting. Dr. W. H. Gibbins discussed the question in an able manner.

The care of the eyes was the subject assigned to Dr. A. E. Derwent of Clinton. He gave a good talk on eyes and ears and his method of treatment. This subject was discussed by Drs. R. D. Haire and J. H. Walton and each had views that they explained well.

Dr. S. W. Woltzen of Urich was reinstated as a member.
F. M. DOUGLASS, M.D., Secretary.

LAFAYETTE COUNTY MEDICAL SOCIETY

The Lafayette County Medical Society met in regular session at Higginsville, March 14, in the office of Dr. W. A. Braecklein, with the president, Dr. Mills of Mayview, in the chair. In the absence of Dr. J. Q. Cope, the secretary, the chair appointed Dr. Frank Mann secretary pro tem.

After the usual preliminaries, the program was disposed of. Several clinical reports were much discussed to the instruction and entertainment of those present.

Dr. Ferdinand Schreiman read a brief paper on "The Shortcomings of Our Society," which was extensively discussed.

Dr. F. H. Morley, Higginsville, read an exhaustive paper on "The Influence of the Modified Forms of Streptococci, on Malignant Endocarditis and Rheumatism." Circumstances did not permit the discussion of the paper which is so abundantly merited.

Present were Drs. Braecklein, Dawson, F. W. Mann, Mills, Morley, Oetting, Schneider and Schreiman.

FERDINAND SCHREIMAN, Reporter.

MISSISSIPPI COUNTY MEDICAL SOCIETY

The Mississippi County Medical Society met in regular session February 7, at Charleston, in the office of Dr. M. H. Shelby. The president, Dr. A. W. Chapman, presided. The following members were present: Drs. H. L. Reid, J. W. Lynch, J. C. Boone, C. C. Presnell and M. H. Shelby. The minutes of the previous meeting were read, and there being no objection, same stood approved.

Dr. J. W. Lynch reported very interesting cases of spurious pregnancy. These cases were extensively discussed.

Dr. C. C. Presnell reported a very interesting case of pulmonary embolism following labor. This case also was thoroughly discussed.

The committee, consisting of Drs. Reid, Lynch and Shelby, appointed by the president to investigate applications of new members, recommended that Dr. H. R. Hunter, East Prairie, be admitted as a member to our society. Accordingly Dr. Hunter was received into full membership.

It was decided to have on our next program a symposium on lobar pneumonia, Dr. Howle to discuss definition and symptomatology; Drs. Shelby and Marshall, bacteriology and pathology; Drs. Lynch and Love, treatment; Drs. Boone and Pease, complications and sequelae.

On motion the meeting adjourned to meet again in Dr. Boone's office March 6.

MITCHELL H. SHELBY, M.D., Secretary.

NEW MADRID COUNTY MEDICAL SOCIETY

The New Madrid County Medical Society met at the office of the president, Dr. Edward E. Jones, Lilbourn, at 2 p. m., February 29, with the following members present: Drs. E. E. Jones and Edward Bogard, Lilbourn; Drs. J. H. Timberman and Claud McRaven, Marston; Dr. J. D. Fakes, Matthews.

Dr. J. H. Cochran, Gideon, was present and was received into membership on the recommendation of the St. Louis Medical Society, of which he was a former member.

Drs. E. P. Stepp and J. T. Hethcork, Morehouse, were elected to membership.

Dr. J. T. McRaven read an instructive paper on the "Prevention of Contagion," which was appreciated by all present, and should have been heard by the general public.

Dr. J. H. Timberman read an interesting paper on "Meningitis," and gave the history of a case in his practice which was of great value to us all.

There being no further business, the society adjourned to meet with Dr. William N. O'Bannon, New Madrid, May 16, 1916.

JOHN D. FAKES, M.D., Secretary.

PUTNAM COUNTY MEDICAL SOCIETY

At the November meeting of the Putnam County Medical Society held at the office of Dr. J. H. Holman in Unionville, the following officers were elected for the coming year: Dr. Ida May Nulton, Livonia, president; Dr. Cyril P. Vores, Unionville, secretary-treasurer. Owing to the bad condition of the roads the society has not met since that time. All members have paid 1916 dues as follows: Albert C. Berry, Carl H. Carryer, J. H. Holman, E. A. Montgomery, C. P. Vores, E. F. Weir and G. J. Peckinpaugh of Unionville; Fred A. Cozad, Powersville; Ida M. Nulton, Livonia; Cullen O. Thomas, Worthington.

Dr. Lee Haynes, formerly a member of our society, now resides in Kansas City and has transferred his membership to Jackson County. Dr. James W. Helton, formerly a member of our society, now resides in Cincinnati, Iowa, and has transferred his membership to Iowa.

Our society is very glad to report the names of two new members for this year, namely, Drs. G. J. Peckinpaugh and E. F. Weir, which counterbalances the falling off of the two doctors who moved from the county, thus leaving us with the same total membership as last year. It is our hope that we may induce the other members of the medical profession in the county to join the society.

CYRIL P. VORES, M.D., Secretary.

STE. GENEVIEVE COUNTY MEDICAL SOCIETY

The Ste. Genevieve County Medical Society held its annual meeting, Dec. 8, 1915, with the vice-president, Dr. F. E. Hinch, in the chair. The minutes of the last meeting were approved as read and the treasurer's report for the year 1915 was read and approved.

The election of officers resulted in the retention of the same officers for 1916, as follows: Dr. C. Moore, president; Dr. F. E. Hinch, vice-president; Dr. R. W. Lanning, secretary-treasurer; Dr. F. E. Hinch, delegate and Dr. G. M. Rutledge, alternate. Board of Censors, Drs. Wilkins, Rutledge and Lanning.

There being no further business, the society adjourned.

R. W. LANNING, M.D., Secretary.

WEBSTER COUNTY MEDICAL SOCIETY

The Webster County Medical Society held its quarterly meeting at Rogersville, March 15, 1916. The meeting was called to order by the president, Dr. W. A. Atkins, Rogersville, at 10 a. m. Drs. Highfill, Good, Rabenau, Sayers, Atkins and Bruce answered to the roll call and Drs. Wallis Smith and C. H. McHaffie of Springfield and Dr. M. G. Roberts of Marshfield were present as visitors. The minutes of our last meeting and the report of the treasurer were read and approved.

The application for membership of Dr. M. G. Roberts, Marshfield, accompanied by the fee, was referred to the board of censors. The board reported favorably and Dr. Roberts was elected to membership in our society.

Reports of cases by each of the doctors present and the treatment were then discussed until the noon hour when we adjourned to the Ozark Hotel for dinner. The meeting was resumed at 1:30 p. m., when Dr. Wallis Smith read an excellent paper on "Surgical Treatment of Strangulated Hernia." This paper was very interesting to all of us as the condition is so common in every-day practice. The paper was freely discussed by every one present. In summing up his paper Dr. Smith urged that the operation be done as soon as possible in every case, when not reduced otherwise, to avoid further trouble and to make a permanent cure.

Dr. C. H. McHaffie read a fine paper entitled "Influenza," bringing to light various complications and the most modern treatment. This paper was also discussed at length by those present.

It was moved and seconded and duly adopted that we hold our annual picnic at Crown on the James River, June 21, weather permitting.

At 4 p. m. the meeting adjourned.

JOHN R. BRUCE, M.D., Secretary.

THE TRUTH ABOUT MEDICINES

NEW AND NONOFFICIAL REMEDIES

Since publication of New and Nonofficial Remedies, 1916, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies."

RADIUM BROMIDE, W. L. CUMMINGS CHEMICAL COMPANY.—It complies with the standards of N. N. R. and is sold on the basis of its radium content. W. L. Cummings Chemical Company, Lansdowne, Pa.

RADIUM CARBONATE, W. L. CUMMINGS CHEMICAL COMPANY.—It complies with the standards of N. N. R. and is sold on the basis of its radium content. W. L. Cummings Chemical Company, Lansdowne, Pa.

RADIUM CHLORIDE, W. L. CUMMINGS CHEMICAL COMPANY.—It complies with the standards of N. N. R. and is sold on the basis of its radium content. W. L. Cummings Chemical Company, Lansdowne, Pa.

RADIUM SULPHATE, W. L. CUMMINGS CHEMICAL COMPANY.—It complies with the standards of N. N. R. and is sold on the basis of its radium content. W. L. Cummings Chemical Company, Lansdowne, Pa.

BORCHERDT'S DRI-MALT SOUP EXTRACT.—A powder obtained by adding potassium carbonate 1.1 Gm. to each 100 Gm. of Borchardt's Malt Extract and evaporating. Borchardt Malt Extract Co., Chicago.

BORCHERDT'S DRI-MALT SOUP EXTRACT WITH WHEAT FLOUR.—A powder obtained by evaporating 100 Gm. Borchardt's Malt Soup Extract and 50 Gm. wheat flour made into a paste. Borchardt Malt Extract Co., Chicago.

BORCHERDT'S FINISHED MALT SOUP POWDER.—A powder obtained by evaporating 100 Gm. Borchardt's Malt Soup Extract, 50 Gm. wheat flour, made into a paste and 330 Gm. milk. Borchardt Malt Extract Co., Chicago (*Jour. A. M. A.*, March 11, 1916, p. 815).

SAUBERMANN RADIUM EMANATION ACTIVATOR.—An apparatus for the production of radio-active drinking water by the action of radium sulphate. Each apparatus is designed to furnish about 500 Cc. radio-active water per day. The exact daily capacity and efficiency are guaranteed and are stated for each apparatus. The following strength generators are offered:

SAUBERMANN RADIUM EMANATION ACTIVATOR, 5,000 MACHE UNITS.—An apparatus which imparts about 1.8 microcurie (5,000 Mache Units) to about 500 Cc. water daily.

SAUBERMANN RADIUM EMANATION ACTIVATOR, 10,000 MACHE UNITS.—An apparatus which imparts about 3.6 microcurie (10,000 Mache Units) to about 500 Cc. water daily.

SAUBERMANN RADIUM EMANATION ACTIVATOR, 20,000 MACHE UNITS.—An apparatus which imparts about 7.2 microcurie (20,000 Mache Units) to about 500 Cc. water daily.

SAUBERMANN RADIUM EMANATION ACTIVATOR, 50,000 MACHE UNITS.—An apparatus which imparts about 18 microcurie (50,000 Mache Units) to about 500 Cc. water daily. Radium Limited, U. S. A., New York (*Jour. A. M. A.*, March 18, 1916, p. 893).

PROPAGANDA FOR REFORM

COLLOIDINE.—Colloidine (Boracol Chemical Co., agents) is claimed to be "A Colloidal Vegetable Iodine Combination," each tablet of which is stated to represent $\frac{1}{3}$ grain iodine. Because of the colloidal character of the iodine compound, Colloidine is claimed to be an especially efficacious iodine preparation. The Council on Pharmacy and Chemistry reports that Colloidine is ineligible for New and Nonofficial Remedies because, as shown by examination in the A. M. A. Chemical Laboratory, the iodine was deficient in amount and in a form of an iodide or in a form which so readily yields iodide that the therapeutic effects of Colloidine would seem to be those of iodides; and because the therapeutic claims were unwarranted (*Jour. A. M. A.*, March 11, 1916, p. 831).

EMETIC ACTION OF DRUGS.—The investigation of R. A. Hatcher and C. Eggleston show that the nauseant and emetic action of many drugs is not due to their effects on the stomach, but to a central action on the "vomiting center." Practically all alkaloids and alkaloidal drugs which have emetic properties, including morphine and preparations containing it, emetine, cephaeline, quinine, nicotine, lobeline, pilocarpine, aconite and veratrine, ergot and apomorphine, which produce nausea or vomiting as their chief or side actions, do so by direct effect on the vomiting cen-

ter. Sodium salicylate, picrotoxin and digitalis also produce vomiting through central action. These investigations show the futility of the many devices which have been employed in attempts to avoid the nausea or emesis produced by many drugs as an undesired side-effect (*Jour. A. M. A.*, March 11, 1916, p. 817).

ALARMING SYMPTOMS CAUSED BY DIARSENOL.—Diarsenol is made by the Synthetic Drug Company of Toronto, Canada. It is stated to be chemically identical with salvarsan. A. H. Cook, Hot Springs, Ark., reports that he has administered fourteen intravenous injections of Diarsenol. Eleven consecutive doses were without untoward effect or phenomena differing from those attending the intravenous administration of salvarsan. The three subsequent doses produced alarming symptoms, which Dr. Cook never observed from the use of salvarsan or neosalvarsan (*Jour. A. M. A.*, March 18, 1916, p. 865).

CLINICAL REPORT ON ARSENOBENZOL.—"Arsenobenzol" is being made by the Dermatological Research Laboratories of the Philadelphia Polyclinic. It is stated to be chemically identical with salvarsan. O. S. Ormsby and J. H. Mitchell report a series of 184 injections given to seventy-five patients suffering with syphilis in its various stages. They report that the action of this drug has been uniform, its toxicity low, and its therapeutic results excellent (*Jour. A. M. A.*, March 18, 1916, p. 867).

ENDORSE THE COUNCIL ON PHARMACY AND CHEMISTRY.—The following resolution was presented at the San Francisco meeting of the A. M. A. and signed by all the members of the House of Delegates in attendance: "Resolved, We, Members of the House of Delegates of the American Medical Association, believe that every effort must be made to do away with the evils which result from the exploitation of the sick for the sake of gain. Earnestly believing that the continued toleration of secret, semisecret, unscientific or untruthfully advertised proprietary medicines is an evil that is inimical to medical progress and to the best interest of the public, we declare ourselves in sympathy with, endorse and by our best efforts will further the work which has been and is being done by the Council on Pharmacy and Chemistry of the American Medical Association in the attempt to eliminate this evil" (*Jour. A. M. A.*, March 18, 1916, p. 910).

THE REQUIREMENTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY.—New and Nonofficial Remedies contains the rules which govern the Council on the admission of remedies to this book. These rules merely require that the composition of a remedy be non-secret, that its uniformity be safeguarded, that no false claims be made regarding its therapeutic properties and that its use shall be at least based on a probability of therapeutic merit. A simple way of determining if a certain preparation complies with the Council's rules, is to see if it is described in New and Nonofficial Remedies (*Jour. A. M. A.*, March 18, 1916, p. 913).

LARKSPUR FOR PEDICULOSIS CAPITIS.—Various formulas for tincture of larkspur for use against pediculosis capitis have been published, but larkspur is poisonous and harm may result where there are abrasions of the skin. Many prefer kerosene. It is applied under a suitable cap. After twenty-four hours the hair is combed to remove nits and then washed (*Jour. A. M. A.*, March 18, 1916, p. 913).

HEXAMETHYLENAMIN AND URIC ACID.—If further evidence were necessary to show the futility of administering formaldehyd derivatives like hexa-

methylenamin as uric acid solvents, it could be found in the observations recorded by Haskins under the auspices of the Committee on Therapeutic Research of the Council on Pharmacy and Chemistry. While the administration of excessive doses may produce slight solvent action, Haskins points out that the required dose of hexamethylenamin is too large and an equal or better effect can be produced more readily by administration of alkaline diuretics or sodium bicarbonate in reasonable quantities (*Jour. A. M. A.*, March 25, 1916, p. 962).

VENARSEN, VENOMER AND VENODINE.—The A. M. A. Chemical Laboratory found Venarsen, which is recommended by the manufacturers, the Intravenous Products Company, for the treatment of syphilis, tuberculosis, pellagra and other diseases, to be "a simple solution containing approximately 9 grains of sodium cacodylate, $\frac{1}{40}$ grain of mercury 'biniiodide' and $\frac{3}{4}$ grain of sodium iodid to each full dose." Sodium cacodylate is inferior to salvarsan or neosalvarsan in the treatment of syphilis. The Council on Pharmacy and Chemistry held the claims made for Venarsen unwarranted and its intravenous injection uncalled for. Venomer, which is also offered as an antisypilitic remedy, appears to be a variation on Venarsen, containing considerably less sodium cacodylate and considerably more mercury and iodids. It prompts the comment that a careful physician would not give arsenic and mercury in fixed proportions. Venodine was rejected by the Council on Pharmacy and Chemistry because the claims made for it were found unwarranted and its composition unscientific. The indiscriminate use of intravenous products is objectionable for many reasons: It incurs an unnecessary danger, and it puts the physician to needless trouble and the patient to unnecessary expense (*Jour. A. M. A.*, March 25, 1916, p. 978).

BOOK REVIEW

ANNALS OF SURGERY for February, 1916, contains the following:

"Studies on the Localization of Cerebellar Tumors," by Ernest G. Grey, M.D., Boston; "Calculi in the Submaxillary Gland and Wharton's Duct," by Frank S. Matthews, M.D., New York; "Tuberculosis of the Tongue," by Luigi Durante, M.D., Rochester; "Tanners' Ulcer," by John Chalmers DaCosta, M.D., John F. X. Jones, M.D., and Randle C. Rosenberger, M.D., Philadelphia; "Multiple Cartilaginous Exostoses (Hereditary Deforming Chondrodysplasia)," by Astley Paston Cooper Ashhurst, M.D., Philadelphia; "Treatment of Varicose Leg Ulcers," by Penn G. Skillern, Jr., M.D., Philadelphia; "The Artificial Periosteum for Fixation of Shaft Fractures," by John B. Roberts, M.D., Philadelphia; "Homoplastic Transplantation of a Boiled Segment of a Radius," by Clarence A. McWilliams, M.D., New York; "A Symmetrical Congenital Malformation of the Extremities," by Samuel W. Boorstein, M.D., New York; "Peritoneal Adhesions: Their Prevention with Citrate Solutions," by M. H. Walker, Jr., M.D., and L. M. Ferguson, M.D., Pittsfield; "The Prevention of Peritoneal Adhesions by the Use of Citrate Solution," by Saxton Pope, M.D., San Francisco; "Remarks on the Surgery of the European War," by Edmund B. Piper, M.D., Philadelphia; "Fractures of the Neck of the Scapula," by James Morley Hitzrot, M.D., and R. W. Bolling, M.D., New York.

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EDITOR

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COMMITTEE } S. P. CHILD, M.D.
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ORIGINAL ARTICLES

CITRATE TRANSFUSION FOR HEMORRHAGE *

L. H. HEMPELMANN, M.D.
ST. LOUIS

The various methods of transfusing human blood may be divided into four classes, namely, (1) those in which the vessel of the donor is connected directly by means of sutures or special cannulae (Crile) with the veins of the donee; (2) those in which a hollow needle is introduced into the veins of the donor and another needle into the vein of the donee and the blood aspirated into a syringe and expelled into the donee's vein by means of a two-way cock, or by disconnecting the syringe (method of Lindemann, Unger, et al.); (3) the methods by which the blood is drawn into paraffined glass tubes and then reinjected into the vein of the patient before it has time to clot (Kimpton, Brown, Curtis, et al.); and (4) those in which some anticoagulating medium, such as herudin¹ or sodium citrate, is added to the blood which is then reinjected into the vessel of the patient. Herudin is somewhat toxic so that now the addition of sodium citrate is usually practiced. It seems to be harmless in the dilute solutions used for transfusing, namely, 0.2 to 1 per cent. The method was first worked out and described by Hustin² of Brussels, who published his paper in May, 1914. During the spring of 1915 Richard Lewissohn³ and Richard Weil⁴ described the same method, both working independently and without knowledge of Hustin's work.

The syringe, cannula and paraffined tube methods all require a certain amount of technical skill on the part of the operator, special instru-

ments, skilled assistants, and can usually be carried out successfully only in a well-equipped operating room. The citrate method, on the other hand, is so simple that almost any physician can successfully carry out a transfusion without the use of special instruments or skilled assistants, and the proceeding may be done in less than one half hour at the patient's home without moving him from his bed. It is because of these advantages over the older methods that I have thought it worth while to bring the citrate method to your attention. There may be differences of opinion as to the best way of transfusing, but I believe there can be no question as to the many advantages the citrate method has for emergency work and especially in the treatment of protracted hemorrhage. It has been found that after a certain amount of blood has been lost there is frequently an oozing which is at times uncontrollable, due to a change in the blood itself and the formation of thrombi which are soft and friable and not capable of occluding the vessels effectively. This occurs even in persons who are not bleeders in the usual sense. If, however, fresh blood is added by means of a transfusion, not only is some of the lost blood replaced, but prothrombin and platelets are added. Experience has shown that the thrombi, which form after a transfusion, effectively block the vessels and the hemorrhage frequently ceases. Strange as it may seem, the addition of sodium citrate in vitro in no way interferes with this action on the clotting of the blood in vivo, both as regards coagulation time and consistency of the clots.

The Lewissohn operation is performed in the following way: 5 c.c. of a 10 per cent. sterile sodium citrate solution are placed in a graduate, a rubber tube is then placed about the arm of the donor, a rather large needle is introduced into the vein of the donor and the blood is allowed to flow in a stream into the citrate solution until 250 c.c. has been collected. This makes a 0.2 per cent. solution of citrate in blood. An assistant stirs the citrated blood with a glass rod while it is flowing into the receptacle. Then another graduate is filled, and so on until

* Read before the St. Louis Medical Society, February 12, 1916.

1. Satterlee and Hooker: Arch. Int. Med., 1914.
2. Hustin: Ann. et Bull. de la Soc. Royale d. Med., May, 1914.
3. Lewissohn, Richard: Surg., Gyn. and Obst., 1915.
4. Weil, Richard: Jour. Am. Med. Assn., 1915.

one has collected as much blood as one wishes. The citrated blood is then poured into a salvasan apparatus and injected into the patient's vein in the usual way, care being taken not to inject too fast in order not to cause dilatation of the heart. The citrated blood may also be placed on ice and kept several days (even as long as six days) before being reinjected, without any detrimental effects, even the oxygen-carrying capacity of the red corpuscles not being affected in any way by this delay. The only danger connected with transfusion is due to incompatibility of the blood of donor and donee, that is, the blood of one being hemolytic or agglutinative for the other. Tests for hemolysis and agglutination should be made before every transfusion, except in desperate cases. These tests can be carried out in about one to two hours according to a special "rapid" technic. A Wassermann is also indicated, if time allows. Contrary to the usual opinion, hemolysis is quite as apt to occur in the blood of two blood relatives as in that of strangers. I have transfused two patients for hemorrhage.

The first case, a man 56 years of age, was seen with Drs. Klein and R. S. Barnes in a private dwelling, Sept. 15, 1915. He had been bleeding from the bowels for seven days and seemed to be in a dying condition. He was pulseless, unconscious, had the peculiar unrest that one sees in hemorrhage cases and was having involuntary evacuations of urine and of bloody stool. The physicians in attendance had used morphin, horse serum, saline solutions and all the things usually employed to check hemorrhage, but without success. A transfusion was suggested and accepted by the family, a sister of the patient being chosen as donor. Dr. R. Buhman was summoned and rapidly made the tests for hemolysis, after which a citrate transfusion of 250 c.c. was carried out in the manner described above. The patient seemed better at the conclusion of the operation, the bleeding ceased and the man made an uninterrupted recovery. I saw the patient only twice after the operation and was unable to determine the cause of the hemorrhage.

The second case was a man 24 years of age whose septum had been removed by a rhinologist Dec. 20, 1915. The patient had been given calcium forty-eight hours prior to the operation in the way usually practiced by nose and throat men. Eight hours after the operation the patient vomited a large quantity of blood and the nose was repacked by the rhinologist. However, in spite of this and of morphin, saline solution, horse serum, etc., the oozing continued uninterruptedly for nineteen hours after the first vomiting of blood. The patient was almost exsanguinated by this time, his pulse was 140 and hardly perceptible at the wrist and he seemed in a desperate condition. A transfusion was suggested and one of the patient's friends volunteered as donor. Dr. Buhman made the usual

tests, and then 320 c.c. of citrated blood was injected into the patient's vein in the same way as in the foregoing case. The patient's condition improved immediately, the pulse coming down to 120 and the mucous membranes becoming quite pink at the conclusion of the transfusion. The oozing stopped and the patient made an uninterrupted recovery. In each case the transfusion was followed by slight fever which lasted only a short time. This is not infrequent after transfusions and occurs quite as often after direct as after citrate transfusions.

The only unfavorable report regarding the use of citrate transfusion that has come to my notice is that of Irving Simons⁵ of Nashville, Tenn. He reported three cases: in one the results were ideal. In the second case there was evidently hemolysis, as the patient voided claret-colored urine after a citrate transfusion. In the third case, one of ectopic pregnancy with operation, a citrate transfusion was done eleven days after a Crile transfusion using the same donor and was followed by death. There is no mention of any tests for hemolysis and it is well known that second or third transfusions on the same patient are especially dangerous because of the formation of isohemolysins after a first transfusion. These require four to ten days for their formation. It seems probable that death was due to hemolysis and not to citrate. This hemolytic action would have followed any method of transfusion.

It is not my purpose to go into the subject of transfusion in general; I will, however, mention that it has been found useful in the following conditions, namely, protracted hemorrhage—as in gastric and duodenal ulcer, typhoid fever, ectopic pregnancy, in hemophilia, purpura, before and after operation on anemic patients, in pernicious anemia, illuminating gas (CO) poisoning, and in certain cases of lymphatic leukemia.

626 Metropolitan Building.

DISCUSSION

DR. E. P. BUDDY: I think the citrated method probably will revolutionize transfusion. Like all methods it must be used judiciously or there will be untoward results. I think the main thing in transfusion, in mixing one human blood with another, is a careful examination beforehand to be sure there is no hemolysis, infection, etc.

DR. J. C. KOPELOWITZ: I should like to hear the test for hemolysis that is performed before the transfusion.

THE PRESIDENT: Is there any one present who cares to answer that question?

DR. GEORGE IVES: The technic varies. The most common one is that in which citrated blood is obtained from the two individuals. This is mixed in two tubes. For instance, take 0.9 c.c. of the donor's blood and 0.1 c.c. of the donee's blood and vice versa, then after incubation of half an hour or an hour, centrifuge and if the serum is colored, hemolysis has occurred. Agglutination is indicated by gross examination, or the blood can be placed under the microscope. Rous of the Rockefeller Institute has

5. Simons, Irving: Jour. Am. Med. Assn., lxx, 16, 1915.

described another method which he claims is much more rapid, namely, the use of the ordinary blood pipet, but I have not tried it. I think some of the bad results in citrate transfusion are due to too great concentration of citrate. In some of Weil's experiments he used the 1 per cent. solution, which I believe is unnecessarily strong. An 0.2 per cent. solution is sufficient to prevent coagulation in most cases, but to be on the safe side I think a trifle more ought to be used.

I understood Dr. Duke in the same way that Dr. Neilson did in regard to the use of this method for purpura. Theoretically, we would suppose that the platelets would be destroyed by this method, and, according to my understanding of what Dr. Duke said in his talk and after the talk, the blood platelets are to a large extent destroyed by this method; therefore it is not as applicable to purpura as to other conditions, although it may do good because all the platelets are not destroyed. I think its chief field is in hemorrhage. In pernicious anemia it should not be looked on as a curative agent, but as a method which will tide the patient over a crisis. I have taken the blood for this method by different means; first, by allowing the blood to flow into a vessel of citrate; and second, by pumping the blood out of the donor by means of the water pump.

DR. C. H. SHUTT: When I was resident physician at the City Hospital I was interested in the subject of transfusion on account of the emergency cases there, and did considerable work with the Crile method of transfusion. In no instance was the transfusion satisfactory. I was not satisfied with the amount of blood passing from one to the other, and the process was frequently very slow.

I think the citrate method will remove the transfusion operation from the field of the surgeon and place it in the hands of practically any intelligent physician. If people feel that you are only going to puncture a vessel with the needle and draw out the blood, they will more quickly yield than when they know you must tie the arm to another individual, make an incision, cause a certain amount of pain, subject them to the danger of infection and a nasty scar. I agree with Dr. Neilson that as soon as this method is proved reasonably safe the simplicity of it will appeal at once and surgeons who have had difficulty with various complicated methods will welcome this as having a decided advantage.

DR. M. J. LIPPE: There is another procedure that is a life saver, and although I have never had any personal experience with it, the literature on the subject is so clear and concise and the reasoning so exact that I think it is well worth considering. We have all had experience with the infusions of salt solutions in dangerous hemorrhages with the result usually that the patient has a chill and a fever and is not benefited, for the simple reason that the salt solution leaks out of the blood vessels; but the introduction of a glucose solution puts a solution into the blood stream that stays there, and in that way tides the patient over to a time when he can make blood. I think that solution ought to be used in hemorrhages of an extreme character where you have not the time for making a citrate solution or for the tests of the donor's blood.

DR. NORVELLE WALLACE SHARPE: Some years ago a humorous fascicle appeared, entitled "Twenty Miles from a Lemon." It is obvious that that was a desperate condition in which none of us would care to be. It is conceivable, also, that one might be confronted with a severe hemorrhage 20 miles from a salvarsan apparatus, and as I noted that the essayist advised such, I wish to ask Dr. Hempelmann if, in his judgment, that apparatus is essential. Might not we use a simpler form and serve the purpose quite as well?

DR. L. H. HEMPELMANN: Five or six years ago, I reported a case of pernicious anemia on whom Dr. Nietert had done a Crile transfusion. It took us

about four or five hours to complete the operation, and we did not know how much blood went over except by the increase in the hemoglobin. The donor had a nasty scar and was minus 2 inches of his radial artery. The patient was given quite a boost; he seemed to be in a dying condition at the time we did the operation, and he lived for a period of three or four months after.

Men who have had larger experience, such men as Ottenberg and Libman (*Journal of the American Medical Sciences*, July, 1915), states that often a transfusion will inaugurate a remission in pernicious anemia. It will not cure the disease, but this remission may last six months or a year and that it is very well worth while.

I asked Dr. Duke whether he thought citrate transfusion was as good as the other method and he said, yes, he thought it was just the same.

In the hemolytic tests Weil used a 1 per cent. solution of citrate. Lewisohn said that was unnecessarily strong; he was of the opinion that if one used enough blood (they have transfused as much as 1,400 c.c. of blood at one time) the amount of citrate used might be detrimental to the patient. In one of the articles, Richard Weil said that he had injected 5 grams of sodium citrate into the vein of a human being without doing him any damage. Even if one uses 1,000 c.c. of two-tenths solution one injects only 2 grams of citrate; so it seems to be a safe procedure. In purpura the question is a little different; if one has any doubt as to the efficacy of a citrate transfusion one ought to use another method.

The special advantages of the citrate transfusion are that it can be used for emergency work, can be done anywhere, and there is less difficulty in obtaining a donor. If one tells a prospective donor that he is going to have an artery in his wrist cut and that he will have a sore hand for a week or ten days, and that in some cases we cannot guarantee that the disease may not be contracted by uniting the artery to the veins of the patient, he may not submit. In leukemia, for example, it is conceivable that the disease might go from the donee to the donor and in a disease like typhoid fever I think few persons would care to have their vessels connected with the patient's; it seems a serious prospect to the donor. So this method offers a distinct advantage.

The Crile method is not used much at present. I think any of the methods of the syringe and cannula, especially the method of Unger of New York, is better. In the method of Unger, the donor's and the patient's veins are punctured by a needle, there is a syringe with two-way cock and tubing connected with the needles; the apparatus is filled with saline solution, and the blood is drawn up from the donor into the syringe, the cock is turned and it is shot into the patient. The amount of blood is measured (which is impossible with the Crile method), and the donor's artery is not cut. Altogether it seems to be a very good method.

In regard to the glucose solution, I will say that Hustin of Brussels, in his original paper (May, 1914), used a 50 per cent. mixture of blood with citrate and a dilute solution of glucose; the exact percentage I have forgotten.

Lewisohn in his article does not recommend the use of the salvarsan apparatus. He takes a small rubber tube, connects a funnel with it at one end, connects the other end with a hollow needle, inserts that into the patient, pours the blood into the funnel and allows it to run into the patient's vein.

I hope I have not given the impression that transfusions are to be used indiscriminately. Even with all the tests that we can use for hemolysis, agglutination, etc., I always feel that there are certain things about it that we probably do not know and that there will probably be accidents which for a while at least will be inexplicable to us. We should consider a case very well. In these very grave hemorrhages, where the patient is apparently dying and all

the usual methods fail, I believe the citrate transfusion is a very valuable method and that in a very great number of cases it will prove a life saver.

In the article of Ottenberg and Libman they speak of the use of transfusion in hemorrhage. I have tabulated their results: In the fourteen cases of gastric and duodenal hemorrhages they report, twelve recovered and two died, not as a result of hemorrhage but as a result of operative interference, peritonitis and such things. In the prolonged oozing of typhoid there were nine transfusions in seven cases; two of these cases ultimately recovered, one died of perforation, in three the hemorrhage was so profuse that the transfusion did no good, and one died of exhaustion three weeks after the transfusion. There were three cases of ectopic pregnancy reported, with operation and transfusion; all recovered. Of five cases of postoperative hemorrhage, three recovered and two died. Of course, when a ligature gives way and a large vessel is bleeding transfusion will not stop the hemorrhage.

SOME SUGGESTIONS IN THE MANAGEMENT OF GONORRHEAL URETHRITIS*

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Gonorrheal infection of the anterior and posterior urethra, followed by involvement of the prostate gland and seminal vesicles together with the adjacent glands, is the most frequent disorder of this portion of the genito-urinary tract in men. Every general practitioner is frequently called on to treat it in all its stages, the afflicted almost invariably regarding it as a minor ailment, looking on it with a peculiar sense of humor and possessing an expectancy, as a rule, of early and complete relief from treatment at the hands of the physician. Of the patients many are young men having their first experience with the infection and very ignorant as to its nature, gravity or dangers, besides having been grossly misinformed as to the real truth about the disease, its cause and possible complications. On the other hand, many are married and are perhaps already acquainted with the dangers of gonorrhea though they express surprise when they are told of the resistance of the disease to treatment and of the difficulties which lie in the way of a complete and permanent cure.

It becomes a problem to manage successfully many of these cases. Patients suffering from acute or chronic gonorrheal infection of the urethra are not as a rule inclined to exercise that sense of honor, of integrity, and of respect for their medical attendant as are those who come to be treated for numerous other affections. They are peculiarly in a class by themselves. Only exceptionally do we find them ready to aid the physician in carrying out all the details of advice as to diet, sex hygiene, abstinence, physical and mental rest, and numerous other measures ordinarily recommended to them; hence many physicians and surgeons

refuse altogether to treat this affection; besides, the disease is very refractory, the general treatment at its best unsatisfactory and the difficulty of controlling the patient often great.

It is often an extremely difficult matter to hold such a patient with the confidence and satisfaction that one holds the rest of one's patients in private office practice. Wherein does this difficulty lie? How can it be overcome?

If we are to be broad and comprehensive in its explanation the first question requires much in the answer. First of all, we must think of the influence on many of those men of "druggist friends" who are so ready with their "cures"; a number of them, before consulting the physician, fall for one or more of the "gentlemen's closets" advertisements, so promising and assuring to them; many often try favorite "sure-cure" prescriptions of their friends, while a goodly number are deceived and, unfortunately, misinformed as to the true nature of the infection, believing that it is simply a "dose" and can "easily" be cured, particularly if they come for treatment "in plenty of time." An element or factor which increases the difficulty of control in a large percentage of these cases and adds to the misfortune of both patient and doctor is the circumstance that they happen to be old friends or acquaintances, a matter which, in our experience, adds humor to the affair for the patient in exactly the same proportion as it irritates the faithful, well-meaning physician.

During the course of the disease the afflicted one often loses courage and becomes dissatisfied because the disease is very intractable, and in some instances incurable; its discouraging and tiring exacerbations and frequent complications try the patience even of those of the unfortunate victims that are penitent, sick at heart, and burdened heavily with an intense desire to get well, and a strong resolution never to again transgress. Then, again, the various modes of unsuccessful treatment, we are sorry to admit, even in the hands of many capable physicians, contribute through the more distant effect of disappointment or suspicion on the part of the afflicted to the difficulty of successfully managing these cases. Some of these methods are satisfactory to physicians but difficult to carry out in office practice. Others possess scientific value but are impractical in so far as the patient is concerned; some yield improvement for a short time only to be followed by exacerbations; others are painful and discouraging to the patient while still others actually render the disease worse. And so one can proceed ad infinitum, enumerating conditions and factors which tend to render management of these cases an undertaking that is anything but pleasant and agreeable.

I shall not attempt to offer a description of a perfect method of treating gonorrheal urethritis, for we are assuredly aware of our

* Read before the Clay County Medical Society, Liberty, Nov. 29, 1915.

inability to write what that would constitute, namely, a monograph, on this subject that would be a classic. However, I am of the opinion that my scheme for the management of by far the greater number of such cases is one which many general practitioners will find desirable and profitable; one by which great service can be rendered to the patient and through the agency of which, in the course of the treatment (by means of the missionary or educational work that can be done along the line of prophylaxis in venereal diseases in general), the percentage of actual cures can be markedly increased.

I shall, briefly, give an outline of the principles of this method of treatment. It will be observed that some of the considerations are slightly foreign to what are usually termed therapeutic measures; for example, the very important consideration of the early education

classes of patients, does one's hold on a case largely depend. The patient will often inquire early as to the cost of the treatment and will expect the physician to come to a definite understanding with reference to the amount or charge. In quite a number of these cases both patient and physician will fare better if an appreciable payment is made in advance for the services to be rendered. Having shown his good faith by advancing the physician's honorarium the patient will seldom fail to come at the time of his appointment and will be more zealous in his endeavors to carry out the details of general care recommended to him; the doctor, too, will feel that, under these circumstances, he can afford to give more of his time to the treatments and to look more carefully into the progress of the case.

When a patient presents himself for treatment the physician should not overlook the

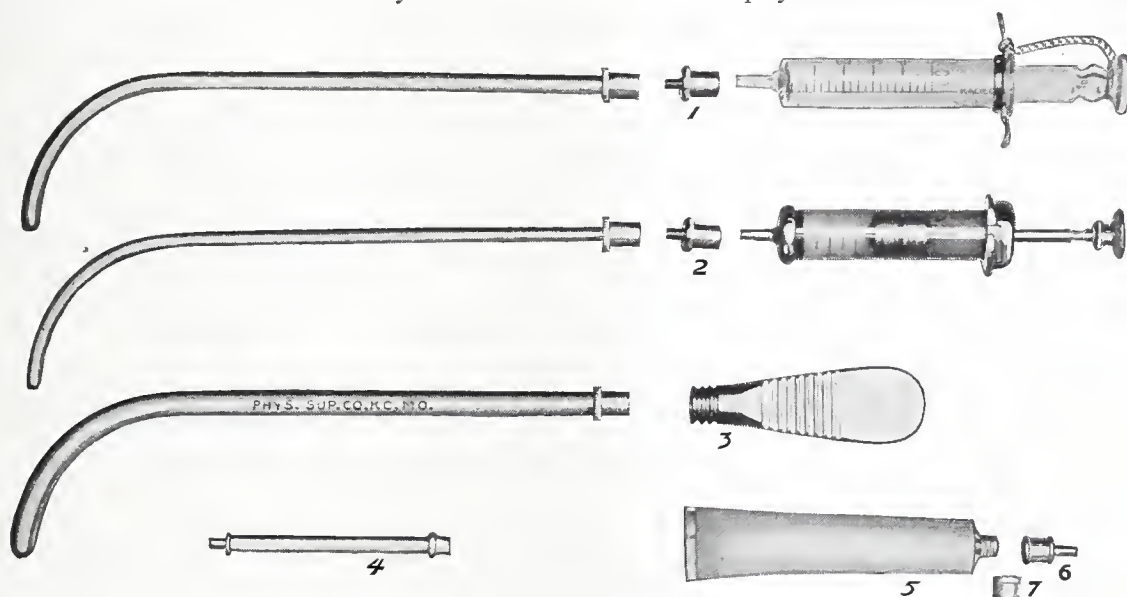


Fig. 1.—1. Tube adapter, Luer syringe. 2. Tube adapter, record syringe. 3. Sound handle; adjustable to any one of the tubes. 4. Silver irrigating nozzle. 5. Collapsible ointment tube. 6. Adapter for ointment tube. 7. Cap for ointment tube.

of the patient. In spite of friendship, relationship, good fellowship, or any other ties between patient and physician, it must be made clear and emphatic to him first of all that the disease is a highly infectious one, and one which in the present state of our knowledge is at times well nigh incurable. In fact, it has been authoritatively claimed that the infection is one which it is impossible to eradicate.

In assuming charge of the case the physician should have it understood that no time limitation is to be placed on the duration of the treatment; nor should he hesitate to inform the patient that the usual period required for recovery varies from three to twelve weeks.

The fee question is, under the ethics of our profession, rightly a subordinate matter and often an extremely delicate subject. Usually it is the last consideration. However, in the case of gonorrhea, strange to say, the matter becomes of vital import; and on this, in certain

favorable impression made by his first examination; this should consist of a thorough inspection and palpation of the parts, the preparation of a stained pus smear for record, the inspection of the urine voided in two glasses by the patient at the time of the examination; in chronic cases, the examination of the prostate; and finally, the first treatment. The first treatment is often given even though the patient be uncertain as to whether or not he can make the necessary arrangements to take the course as outlined by the physician; the patient may desire a day or so to study the matter over. As a rule, the first treatment will appeal to him as a bona fide effort to relieve him and will, in most instances, result in some degree of improvement so that he will return the next day to begin taking them regularly.

For these treatments I have devised, after the pattern of the Ultzmann instillation syringe,

several urethral tubes,¹ ranging in size from No. XII F to No. XXIV F, made of sterling silver, and with the curve of the classical urethral sound. These tubes have capped ends with thread suitable for the universal barrel, and by means of an adapter can be adjusted to the Luer or Record syringes. There is also a sound handle, likewise adjustable, so that the tube may be converted into a sound therewith. In addition, there is another attachment in the way of a short tube of silver, much like the ordinary glass irrigating nozzle, but having a smaller end suitable for attachment to the tubes and used in those cases where it is desired to irrigate. There is also supplied an adapter by means of which a collapsible metal tube, filled with ointment, can be adjusted to the silver tube of the largest caliber, thus presenting one of the simplest methods of applying an ointment directly and easily anywhere along the vesico-urethral canal.

The value of these tubes is enhanced by the fact that they can be used: (1) as sounds in any

bent position the medicament is held in the urethra for about five minutes, the excess allowed to run out slowly, and then a roller bandage, 2 inches wide, with cotton, is applied in such a manner as to cover the glands and body of the penis and protect the clothing of the patient. This dressing is left in place for several hours (or until the patient is compelled to void), the patient having been instructed to remove it first before urinating but not to replace it. Whether or not hand injections by the patient are used or recommended, or irrigations in the usual manner given, the patient is instructed to return the next day for another treatment, and as a rule he can be depended on to return. The second week the same procedure is repeated every other day and the same for the third and fourth week unless greater frequency is indicated.

The choice of drugs rests entirely with the surgeon, as does also the amount employed and even the frequency and extent of the injection. Silver nitrate and the silver vitellines or albu-

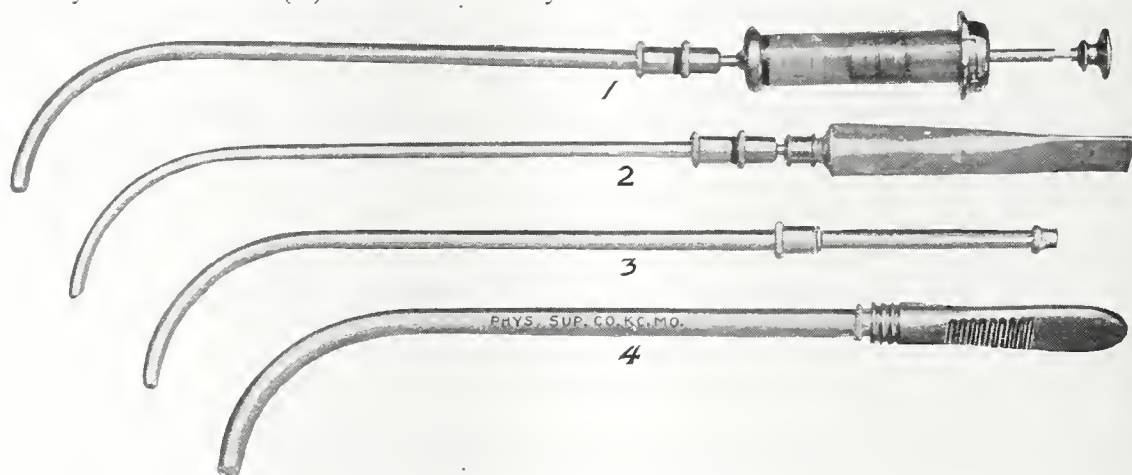


Fig. 2.—1. Silver tube with record syringe attached. 2. Tube with ointment tube attached. 3. Tube with irrigating nozzle. 4. Larger tube with sound handle attached.

stage of the disease; (2) as a means of instilling medicinal agents in the posterior urethra, and of placing any variable amount of the agent anywhere along the urethral canal from the vesical orifice clear out to the urethral meatus; (3) that any size can be used, avoiding thereby irritation of the mucous membranes; (4) that irrigation can be given with even the smallest of the instruments, followed by the injection of the medicinal agent without too much instrumentation; and (5) that the effect of both sound and tube is secured without the additional use of a sound proper.

The most frequently used scheme with these tubes in acute cases is the cautious daily insertion, during the first week, of the smallest tube as far as seems practicable, then the slow and careful injection of as much of the medicinal agent as far as is desirable, withdrawing the tube slowly as the agent is deposited along the urethral canal. The patient being in the recum-

minates and solutions of potassium permanganate are the best. I generally use argyrol, 10 per cent. to 20 per cent. the first week, or silver nucleinate, 10 per cent. to 15 per cent. During the second week argyrol, 20 per cent., or its equivalent, and permanganate of potassium, 1:1,000:1,500 during the third and fourth weeks. Late in the course of the disease we may vary the character or strength of the agent to meet the indications presented.

In chronic urethritis, or gleet, this plan of treatment will be found of the highest value. In strictures of long standing it is also of great service as a supplementary measure in softening inflammatory indurations and relieving congestion of the mucous membrane.

After cystoscopic examinations or urethral examinations in which much instrumentation has been employed, a local treatment with one of the tubes, placing one of the above-mentioned agents all along the canal from the bladder outward will do much toward preventing infection and urethral chill.

1. A description of these tubes was first published in the Jour. Am. Med. Assn., 1915, lxiv, 1754.

Sterile glycerin may be used as a lubricant if there is the slightest difficulty in the introduction of the instrument. As a rule, however, the medicinal agent itself acts as a sufficient lubricant for ordinary purposes.

In conclusion, I desire to repeat that we are not attempting to formulate a new treatment of gonorrhea, for today every one chooses that therapeutic measure which seems most rational according to his own experience and the observations of investigators along this line. Instead, I offer these few suggestions in the hope that by their adoption the patient will be more closely held under the observation of his medical attendant, many complications will be prevented, and much will be done in the way of educating the patient in the dangers, and especially the prophylaxis, of the various venereal disorders; that more cures will be obtained and the treatment of gonorrhea thereby elevated from drudgery to a point where at least some satisfaction can be expressed by both physician and patient.

1222 Rialto Building.

CHOICE OF OPERATION IN THE VARIOUS CLASSES OF CASES OF RETRODISPLACEMENT OF THE UTERUS

WITH LANTERN SLIDES *

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In nearly all cases of retrodisplacement in which non-operative measures prove insufficient, there are complicating conditions requiring intraperitoneal treatment. This intraperitoneal treatment may be carried out through an abdominal or through a vaginal incision, depending on the preference of the operator and the conditions present in the particular case.

ABDOMINAL SECTION

In the majority of cases requiring intraperitoneal treatment the complicating lesions and the retrodisplacement itself can be most satisfactorily treated through an abdominal incision. When the abdomen has been opened and the adnexal lesion or other lesion taken care of then comes the question:

WHAT METHOD SHOULD BE EMPLOYED TO HOLD THE UTERUS IN ANTERIOR POSITION?

This is an important question and one that confronts the gynecologist daily in his work. The answer varies with the conditions present.

A dependable presentation of this subject implies a careful consideration of the various operative measures devised and of their adapta-

bility to the correction of the pathologic conditions present in different patients. Such consideration should be as free as possible from that personal bias which tends unconsciously to make out a case for some particular operation, and also from that snap judgment which mistakes a few supposed facts, assertively proclaimed, for a balanced consideration of the subject.

As a guide to the choice of operation I thought of presenting a series of reported cases operated on by each of the various methods, with the immediate and remote results. A study of such series, however, showed that they presented no satisfactory solution of the problem. There is a marked sameness about reports of series of cases operated on by the various methods. The contents of most of such reports may be summarized as follows:

One hundred patients (more or less) were subjected to the operation. About 90 per cent. did well afterward—hence the operative method reported is the one to be chosen in cases of retrodisplacement.

Such a conclusion backed by a large series of cases is swallowed whole by the unsophisticated. And soon there appear other reports of series of cases subjected to the same operation with the same results (most patients doing very well) and the same dogmatic conclusion (that that is the best operation for retrodisplacement). The more patients subjected to the operation the stronger the argument becomes—to the novice. One common variation from the above routine is, to “go to foundation principles” by citing a few anatomic or physiologic or embryologic facts or fancies favorable to the operation to be later presented, leaving unconsidered overbalancing features just as well or perhaps better established. Another variation used occasionally with telling effect is to cite the fact that of the cases operated on by some other popular method about 10 per cent. did not do well. This clinches the argument—90 per cent. by the presented method did well and 10 per cent. by the other method did not do well.

By such arguments we can arrive nowhere—and that is just where many operators seem to be at present in regard to dependable conclusions on this subject.

There are good reasons for the present confusion. The subject is comparatively new. Certain factors in uterine support are not yet fully understood in physiologic conditions and much less in pathologic conditions. There are associated lesions in most cases, the importance of which in the clinical picture have only in recent years begun to be appreciated. For a conclusive study of the subject it is necessary that there be an accumulation of a large number of carefully studied cases in which various supposed principles have been put to actual test. This is necessary even where the principles can be approximately formulated before testing, and much

* Read at the Fifty-Eighth Annual Meeting of the Missouri State Medical Association, St. Joseph, May 10-12, 1915.

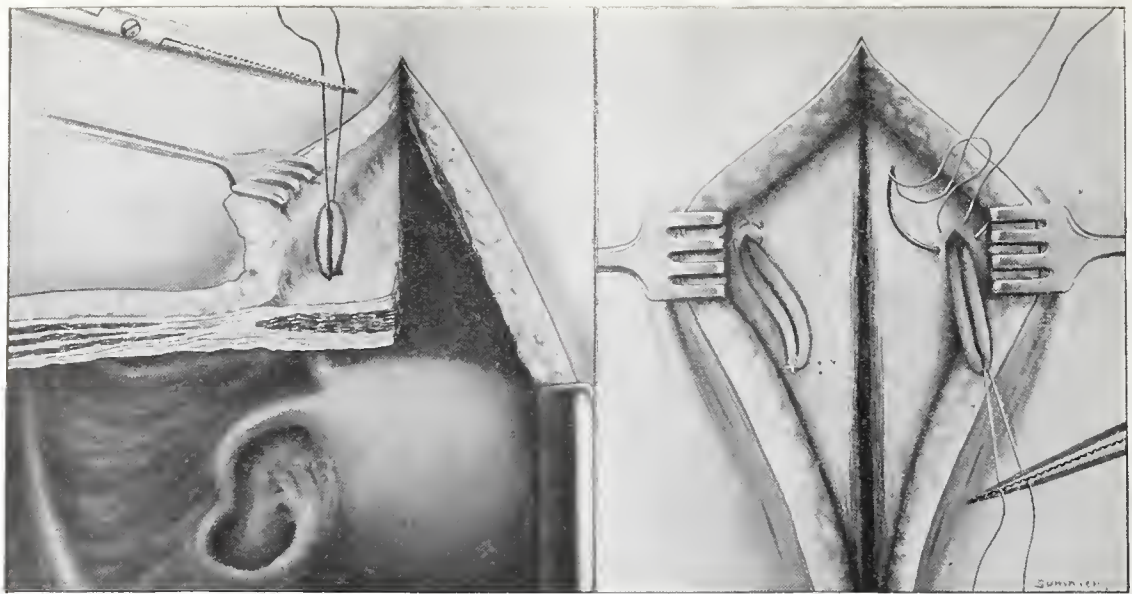


Fig. 1

Fig. 2

Fig. 1.—Transperitoneal transplantation of round ligaments, leaving free bands (Gilliam technic). The ligatures grasped and brought out and the loop of ligament drawn through, transplanting the ligament to its new location in the abdominal wall. The ligament on the other side is brought out in the same way, and then the ligament-loops are fastened by chromic catgut in any manner preferred.

Fig. 2.—Fastening the ligament-loops on the superior surface of the aponeurosis. The fastening suture should include only half the thickness of the ligament, so as to avoid interfering with the blood supply of the ligament-loop. Also, the opening in the aponeurosis should not be closed so tightly that the reparative swelling interferes with the circulation, with possible consequent sloughing.

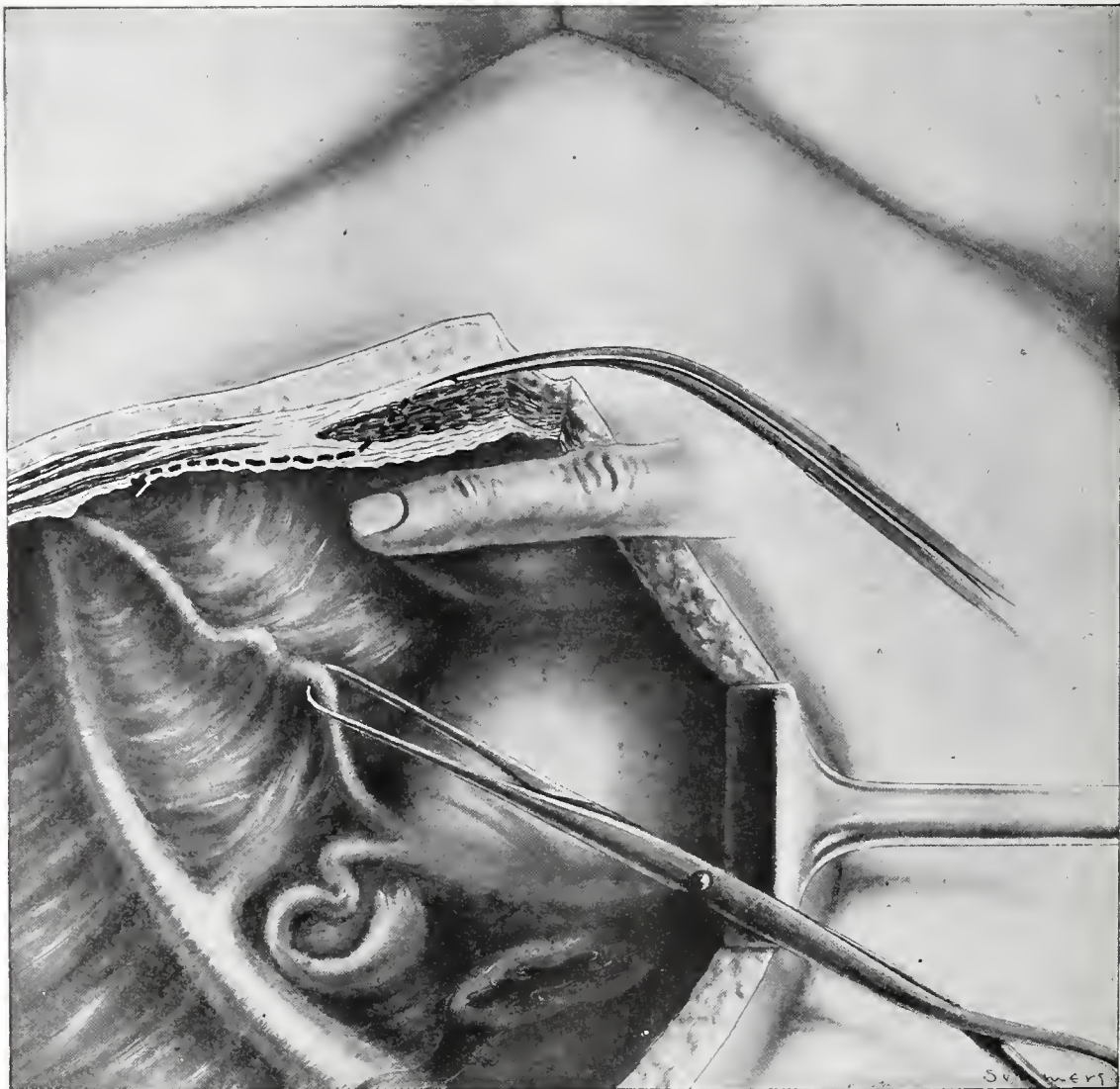


Fig. 3

Fig. 3.—Transperitoneal transplantation of round ligaments, leaving no free band (Crossen technic). The round ligament of each side is grasped with an ordinary tenaculum-forceps $1\frac{1}{2}$ inches (4 cm.) from the uterus, and the retractors are removed from the abdominal wound. The bladder is pushed well down out of the way by one or two fingers. For better identification of the finger as such in the illustration, it is shown ungloved. Of course, the hands are to be gloved in the work. With the other hand, the puncturing tenaculum-forceps is introduced along the track indicated by the heavy broken line. The forceps is directed along under the peritoneum, and through the peritoneum at the desired point, by the fingers within the abdomen.

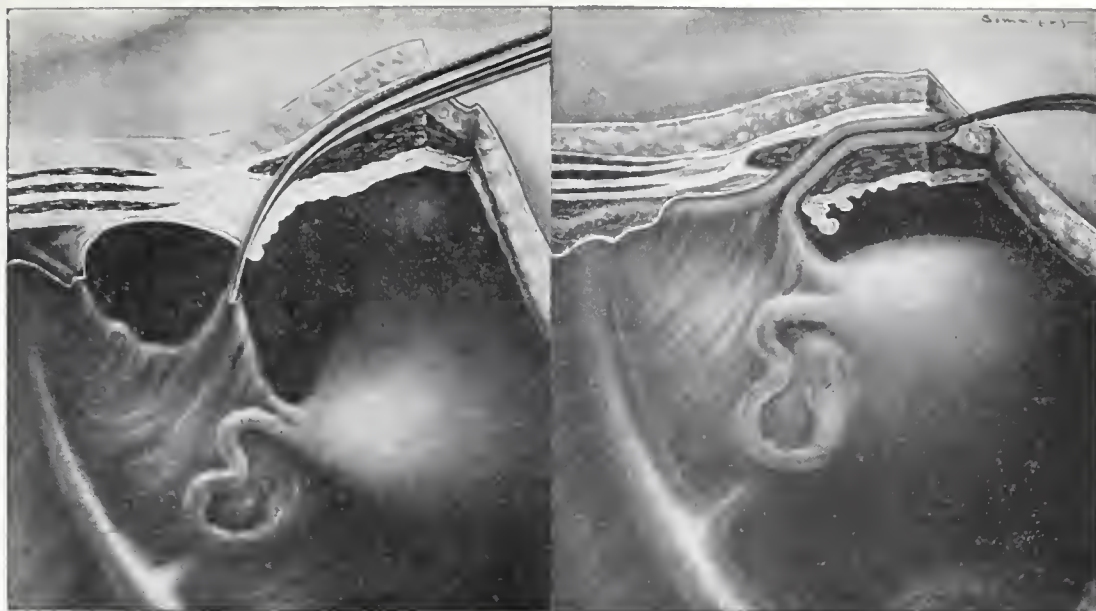


Fig. 4

Fig. 5

Fig. 4.—The left round ligament grasped by the puncturing tenaculum-forceps, preparatory to drawing it into the wall.

Fig. 5.—The left round ligament transplanted into the abdominal wall. The peritoneal opening is drawn beneath the muscle.



Fig. 6

Fig. 7

Fig. 6.—Fastening the ligament-loops to the under surface of the aponeurosis. If long enough the loops may be crossed over the median line. The fastening sutures should not include the whole thickness of the ligament at any point.

Fig. 7.—The transplantation completed, showing the location of the new exits and the forward pull of the shortened ligaments. In closing the peritoneal wound it is well to draw the lower angle up above the uterus, as indicated by the arrow on the forceps point.

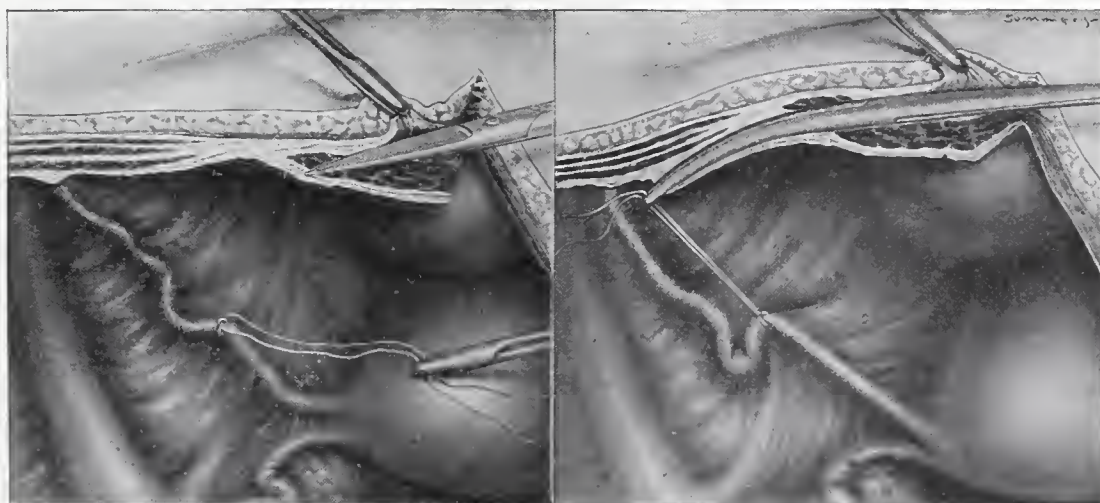


Fig. 8

Fig. 9

Fig. 8.—Transperitoneal transplantation of round ligaments leaving no free band, without the puncturing tenaculum-forceps. Temporary ligature about left round ligament $1\frac{1}{2}$ inches (4 cm.) from the uterus. Scissors introduced through muscle and lower sheath, into subperitoneal space.

Fig. 9.—An ordinary curved pressure-forceps introduced into the scissors track, along under the peritoneum, through the peritoneum, well out to the side, and grasping the temporary ligature preparatory to drawing the ligament into the wall.

more so where the principles themselves must to some extent be worked out gradually by observation at the operating table. The criticism is not directed to the present unsettled conditions, which is the usual accompaniment of the developmental period of any large and intricate subject. Neither is it directed to the series of reported cases with simple presentation of facts and sustained conclusions. What I do criticize and hope to discourage is the too prevalent practice of assuming to explain the whole subject from a rather superficial study of one phase of it. We must separate facts from fancies if we would make real progress. We must study the subject in a broad way, taking into consideration the various features and particularly determining the different pathologic conditions and the operative measures most suitable for each. Some years ago¹ I emphasized the necessity of such study and classification and individual adaptation. There has been an encouraging growth of such study and we have come a long way on the road of progress in the last few years.

In the first place, it is well to recall the fact that, in spite of the large amount of good work done there still remains considerable uncertainty in regard to some features of uterine support. There is the question of the relative importance of the various factors in health under usual conditions and under unusual conditions, in the different types of pelvis and in the different postural habits. There are also the many pathologic conditions resulting from inflammation, childbirth, occupational strains, depressed general health, neurologic conditions, etc. There are anatomic, physiologic and pathologic phases of the subject that are still a bit hazy. The mechanics of intra-abdominal pressure in different types of bodies and in different occupational postures and developmental conditions present some interesting questions that await a conclusive answer. Concerning the different tissues utilized in operations for support, the sustaining power of each in the situation used and under the varying conditions of health and disease has not been fully determined.

The following may be taken as a safe working basis. If any fancies have been counted as facts the writer will be pleased to be shown:

1. Most of the symptoms in retrodisplacement cases are due to complicating conditions. These complications must be recognized and treated if the symptoms are to be relieved. The complications determine to a very large extent the method of treatment to be employed for the displacement.

2. Normally the uterus is maintained in position by a combination of structures. In any scheme of restoration, either this combination support must be restored or some one or two or three supporting structures must be strength-

ened sufficiently to supply the support of missing factors as well as their own quota.

3. Pelvic floor support is necessary to permanent correction of retrodisplacement, and hence the repair of the floor is necessary whenever that structure is seriously relaxed.

4. When decided prolapse of the uterus can be excluded, the problem, after treatment of the complications, resolves itself into maintaining the corpus uteri in the anterior portion of the pelvis and the cervix in the posterior portion, with sufficient elevation of the uterus and adnexa to prevent dragging on hypersensitive attachments.

5. As this problem varies with the different pathologic conditions present, it is advisable for purposes of study and comparison to group the cases into classes somewhat as follows:

A. FUTURE PREGNANCY POSSIBLE

(a) Adnexa of both sides intact and tissues freely movable; (b) ovary and tube of one side removed; (c) tube only removed; (d) ovary only removed; (e) diffuse tissue infiltration, fixing ligaments; (f) varicose veins of broad ligament; (g) cervix too far back.

B. PREGNANCY NOT POSSIBLE

(a) Active uterus preserved; (b) senile uterus preserved.

6. For maintaining the corpus uteri in the anterior part of the pelvis there are a number of fairly satisfactory intra-abdominal methods. Some utilize the round ligaments, folding them within the abdomen or suturing them to the abdominal wall or drawing them into the wall or drawing them backward through the broad ligaments or folding them backward over the uterine cornua. Some utilize the broad ligaments, plicating them in front of the uterus or folding them back of the uterus. Each of these methods has given fair results. As to the choice between them, that is still somewhat uncertain. As a matter of fact, there has not accumulated, so far, a sufficiently large number of individually studied and carefully classified cases to enable one to give a judicial decision as to the relative merits of these different operations under various pathologic conditions.

Personally the writer feels from his experience and study that the following is a good working plan for the present. If some such plan be adhered to in operative work and in reports of cases it will mean substantial progress in two directions: First, there will be more individual study of cases, to determine definitely the complicating conditions, and hence a better selection and adaptation of operative method to pathologic change; second, there will accumulate a large number of reported cases in which the various methods have been carefully tested in cases really suitable for those methods. Such material will make possible a balanced con-

1. Crossen, H. S.: Jour. Am. Med. Assn., xlviii, 1488.

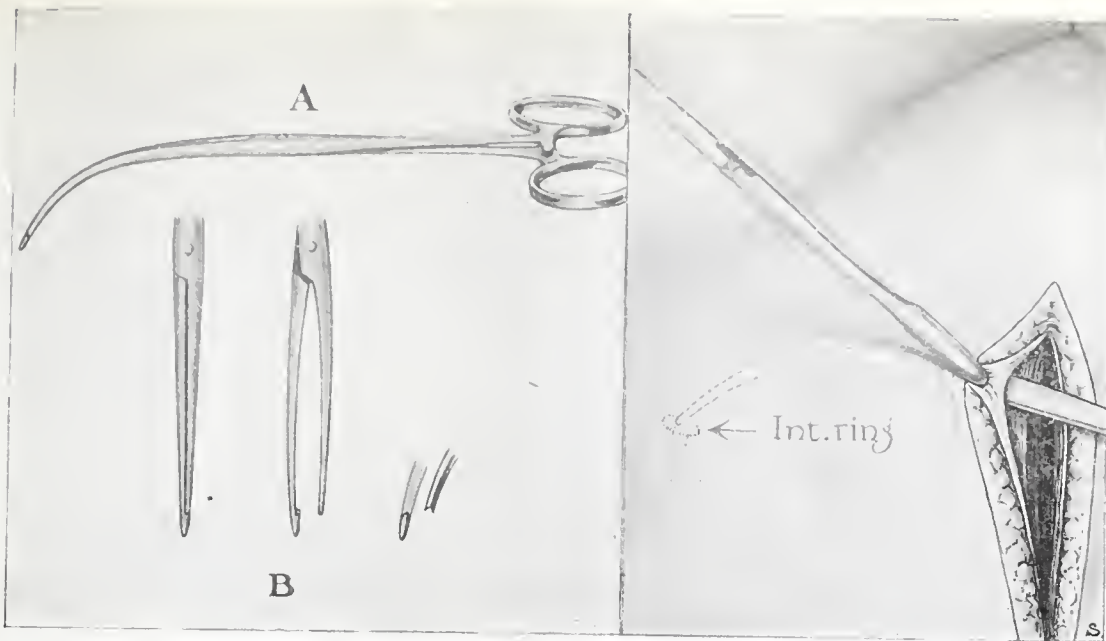


Fig. 10

Fig. 11

Fig. 10.—Subperitoneal transplantation of round ligaments, with lateral pull (Barrett technic). A. Ligature forceps (Barrett). B. Showing details of the point of the forceps.

Fig. 11.—The ligature forceps carried out in the abdominal wall, and entering the internal inguinal ring. From there it is passed between the layers of the broad ligament or directly into the cavity, as preferred, to grasp the ligature.

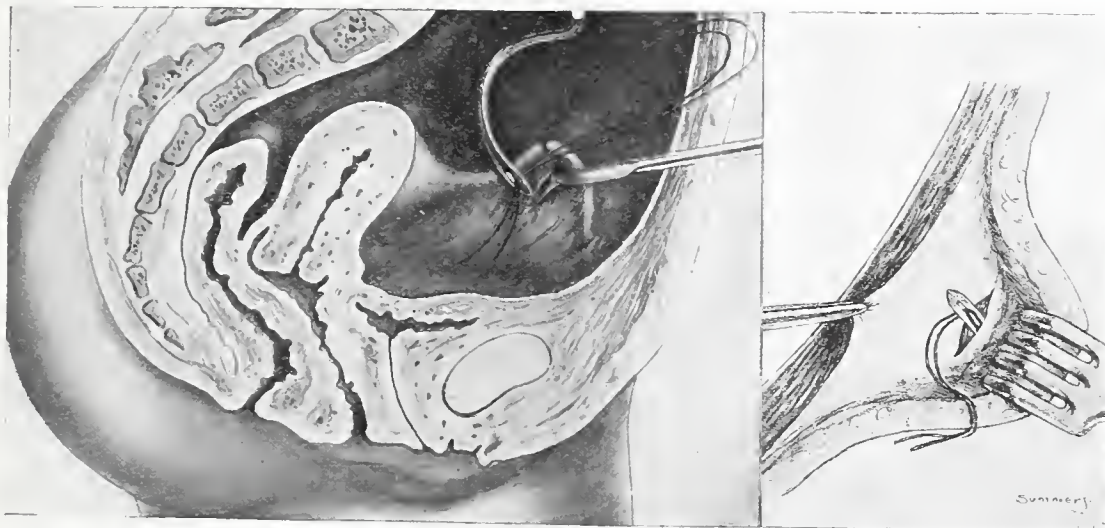


Fig. 12

Fig. 13

Fig. 12.—Subperitoneal transplantation of round ligaments, with forward pull (Simpson-Montgomery technic). The temporary ligature threaded into the pedicle needle, preparatory to being carried between the layers of the broad ligament and through the abdominal wall.

Fig. 13.—The point of the pedicle needle projecting through the small slit made in the aponeurosis near the outer edge of the rectus muscle. The ligature is to be freed from the pedicle needle and the needle is then withdrawn.

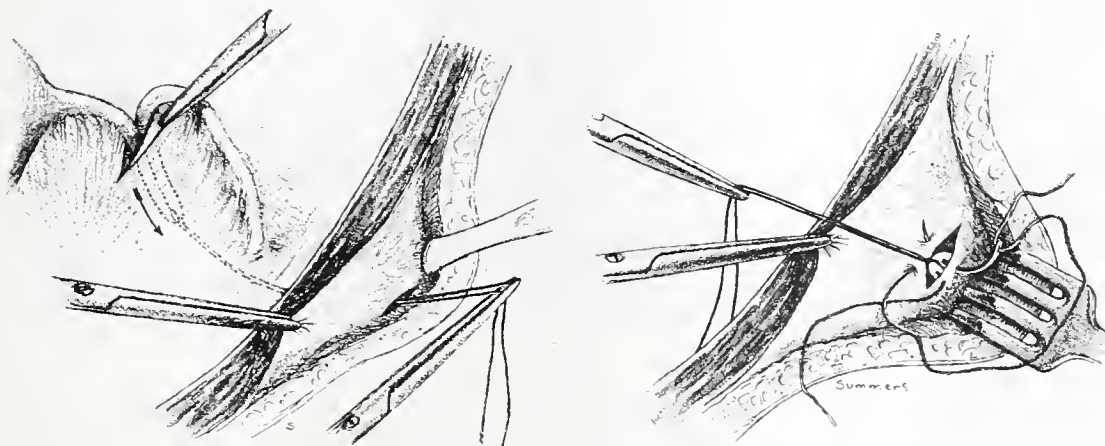


Fig. 14

Fig. 15

Fig. 14.—The ligature caught in a forceps. By means of this ligature the round ligament is being drawn into the abdominal wall.

Fig. 15.—Fastening the ligament-loop in the slit in the aponeurosis. Care should be taken to make secure fastening, with chromic catgut or silk as preferred.



Fig. 16

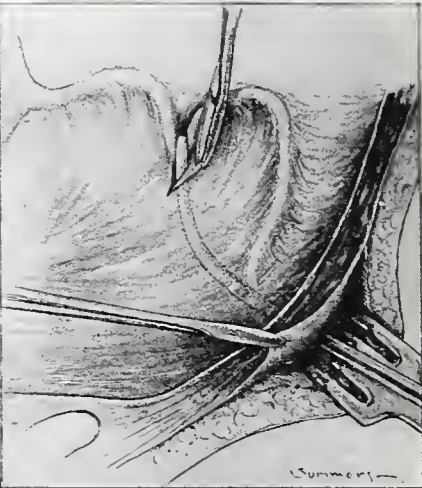


Fig. 17

Fig. 16.—Forceps-technic (Mayo) for subperitoneal transplantation with forward pull. Forceps introduced and grasping a temporary ligature, preparatory to bringing it out.

Fig. 17.—If preferred the forceps may grasp the ligament direct, as indicated here. When brought out, the ligament-loops are fastened as in Fig. 19.

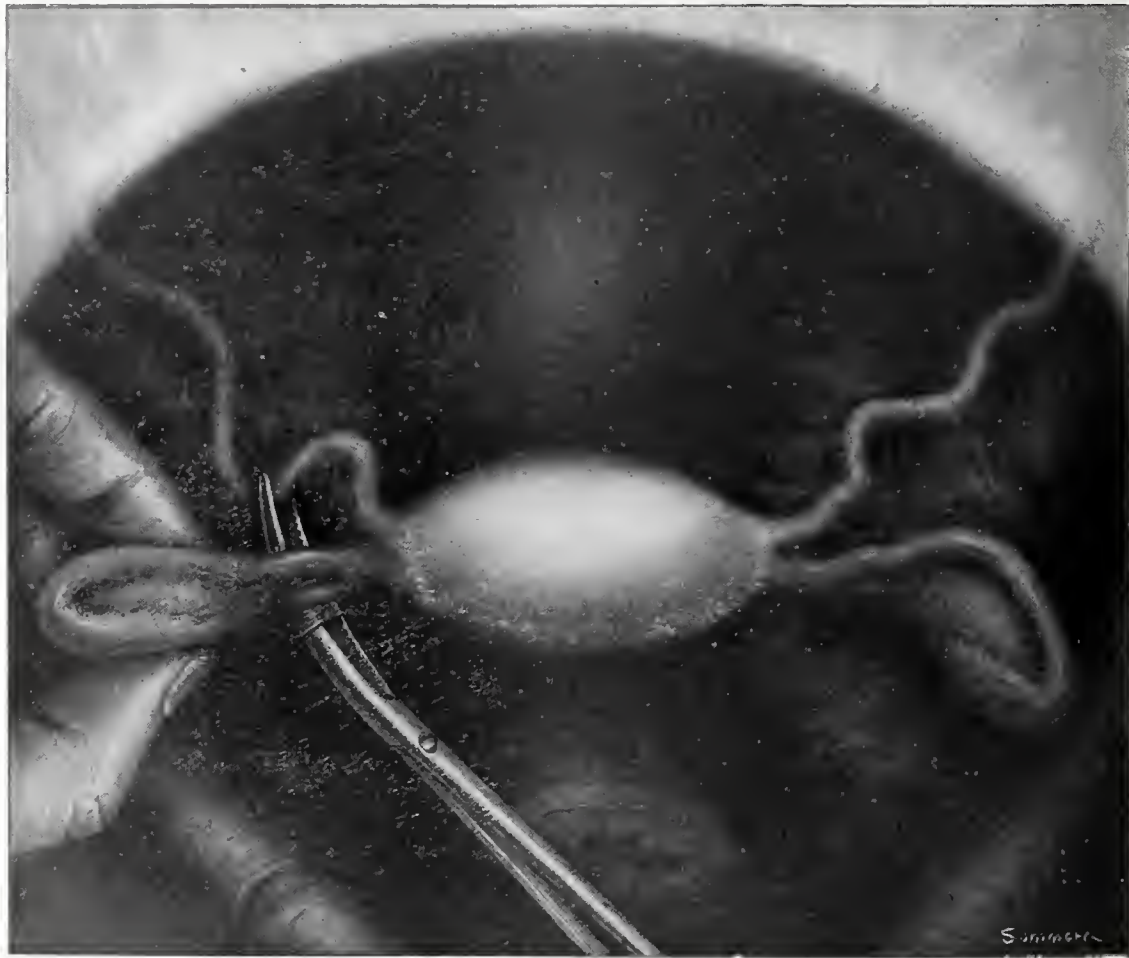


Fig. 18

Fig. 18.—Posterior implantation of round ligaments (Webster-Baldy technic). Grasping the left round ligament with a forceps, introduced through the broad ligament from behind forward just below the utero-ovarian ligament.

sideration of the subject and dependable conclusions.

A. FUTURE PREGNANCY POSSIBLE

When future pregnancy is possible no method of fastening forward the uterus is permissible which could interfere seriously with pregnancy or parturition. This excludes at once ventro-fixation and ventro-suspension.

section was necessary because of the effect of this operation. It is the uncertainty as to the amount of suspension or fixation that will result that makes the operation dangerous in the child-bearing period. The object of the operation is to form a short suspension band strong enough to hold the uterus forward and upward but that will not interfere with the development of the uterus in pregnancy. But



Fig. 19

Fig. 19.—Both round ligaments grasped and brought backward through the broad ligaments. The left round ligament is in place for implantation. The right ligament is only partly drawn through the broad ligament.

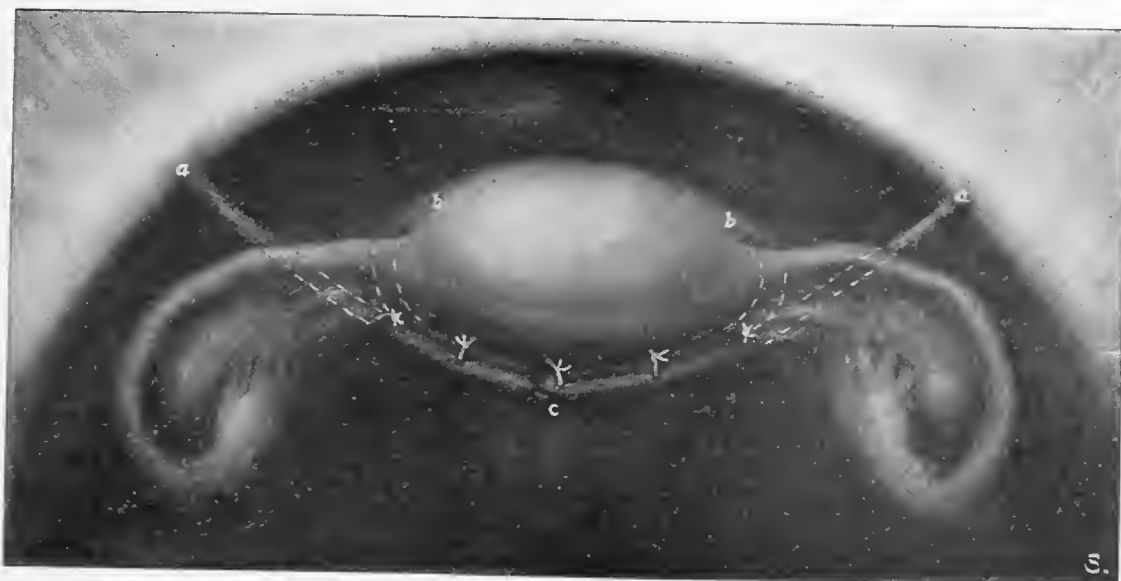


Fig. 20

Fig. 20.—Both ligaments in place and sutured. Notice that the point of attachment of the active portion of the ligament is shifted to the back of the uterus, changing the direction of pull from b—a (lateral) to c—a (forward).

Ventrosuspension has been employed hundreds of times in the child-bearing period with good results. However, a large number of serious results also have been reported from subsequent pregnancies. As long ago as 1905 Lynch collected a number of cases in which cesarean

reported cases show that when the fundus uteri is once sutured to the abdominal wall there is no certainty as to just how much suspension or fixation will take place. From the ideal result the uncertainty extends in both directions, that is, there may result a firm fixation to the

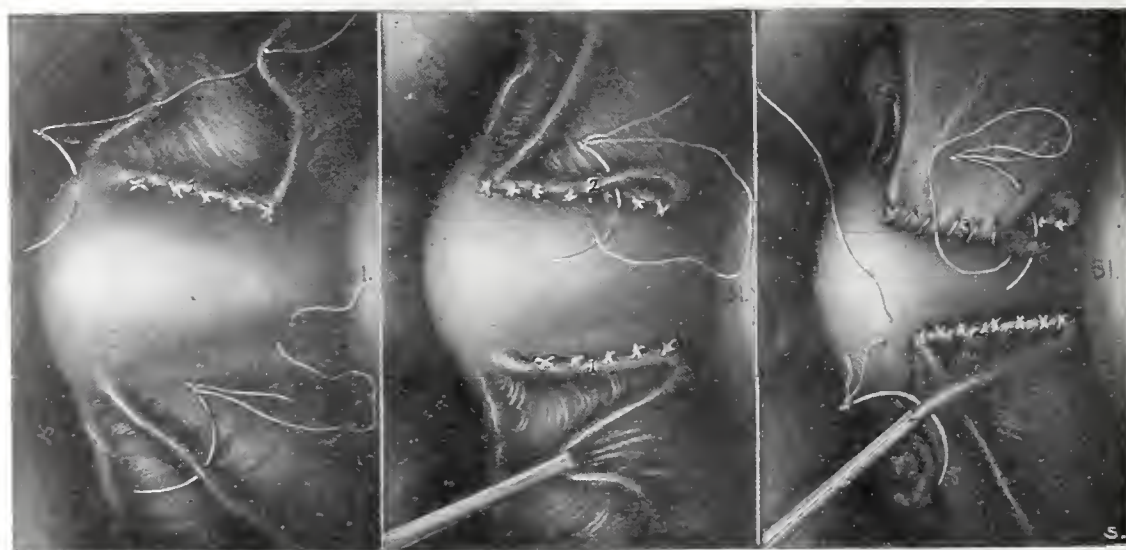


Fig. 21

Fig. 22

Fig. 23

Fig. 21.—Anterior plication of broad ligaments (Coffey technic). On the right side the first suture is being passed. On the left side the first row of sutures is completed and the second row is begun.

Fig. 22.—Second row of sutures almost completed on the left side. First row completed on the right side, and ligament grasped to begin second row. The sutures are of chromic catgut.

Fig. 23.—The running suture for bringing over the third fold, almost completed on the left side. The same suture just begun on the right side. This last suture on each side takes up the slack in the broad ligament.

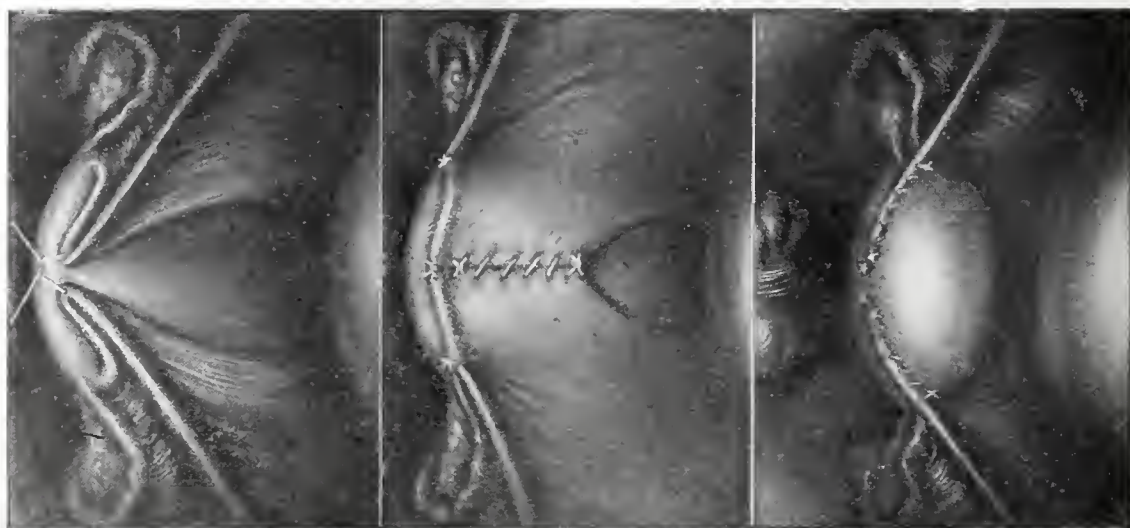


Fig. 24

Fig. 25

Fig. 26

Fig. 24.—Willis technic. Plication by one fold only on each side. A single suture brings the folds together on the front of the fundus uteri.

Fig. 25.—Willis technic. Each round ligament is fastened, also by a suture placed laterally, as here indicated, and the broad ligaments are sutured together in front.

Fig. 26.—Kime technic. A loop of each round ligament is fastened on the posterior surface of the fundus uteri, and then sutured over the top, as shown in the illustration. In fastening the ligament over the top of the uterus care should be taken to keep it median to the tube origin, so that there will be no interference with the tube.

abdominal wall causing a disastrous result in a subsequent pregnancy, or, on the other hand, the suspension band may become so slight and attenuated that it fails to hold the uterus forward and there is recurrence of the old displacement. Again, there is danger of the intestine becoming entangled about such long bands, with resulting intestinal obstruction. These bad results have occurred often enough to

make them valid objections, and accumulated experience has demonstrated unquestionably that this operation should not be employed when future pregnancy is to be reckoned with.

As to what method *should* be employed when pregnancy is possible depends on the particular conditions present in the pelvis. The various conditions will be considered according to the above classification.

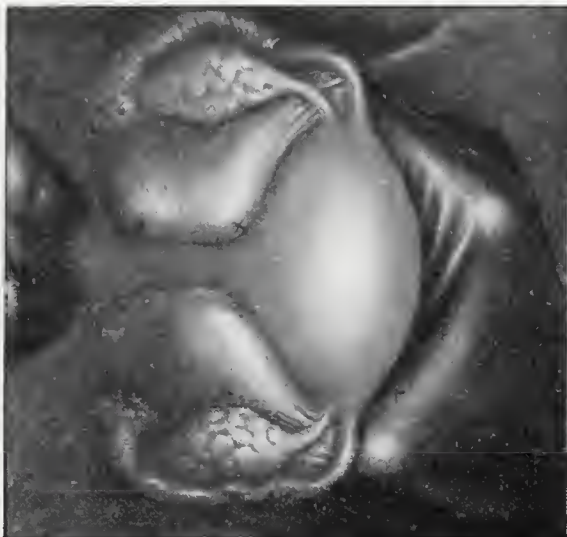


Fig. 27



Fig. 28

Fig. 27.—Posterior plication of the broad ligaments (Venable technic.) The broad ligaments are approximated back of the uterus by grasping the uterus from the front with the right hand, as here shown. The hand is gloved. The thumb encircles the right side of the uterus, while the first and second fingers encircle the left side of the uterus. The points where the plication-suture penetrates the broad ligaments are marked (x). In some cases the broad ligaments may be brought together back of the uterus, but in other cases only part way, as here indicated.

Fig. 28.—Placing the plication-suture. It is passed through the upper part of the right broad ligament from before backward, then through the posterior part of the uterus, then through the upper part of the left broad ligament from behind forward, then through the lower part of the left broad ligament from before backward, then through the posterior part of the uterus, then through the lower part of the right broad ligament from behind forward. When completed the two ends of the suture lie in front of the right broad ligament.

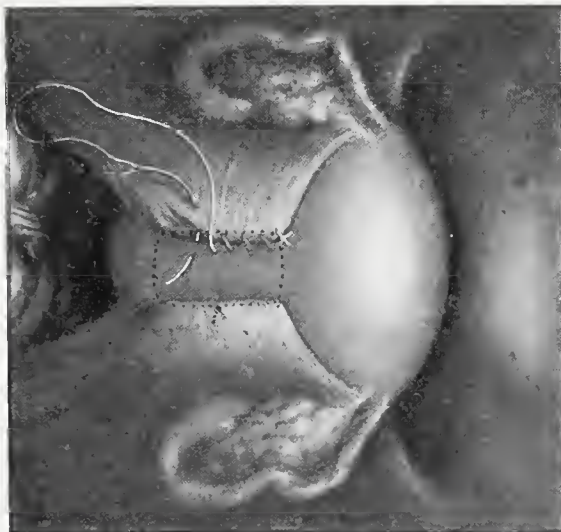


Fig. 29

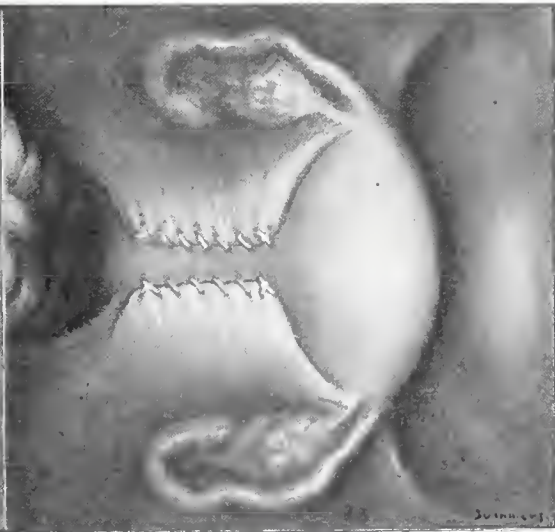


Fig. 30

Fig. 29.—The plication-suture drawn tight and tied, after testing and scarification. It is buried practically throughout, hence is indicated by a dotted line. A running suture is then used to take up slack in the broad ligament and make the fastening more secure.

Fig. 30.—The operation completed. If the broad ligaments are sufficiently slack, they are sutured together in the median line. In some cases it is advisable to shorten the utero-sacral ligaments also.

I. ADNEXA INTACT AND TISSUES FREELY MOVABLE

In this class of cases each of the following intra-abdominal operations has given good results generally, with an occasional failure:

1. *Transperitoneal Transplantation of Round Ligaments into Abdominal Wall.*—This may be made directly through the peritoneum and rectus muscle to the superior surface of the aponeurosis, as shown in Figures 1 and 2; or indirectly through the peritoneum laterally, then through the rectus muscle and to the inferior surface of the aponeurosis, as shown in Figures 3, 4, 5, 6, 7, 8 and 9. The latter method eliminates the lateral opening between ligament and wall and also fastens the ligament loops beneath the protecting aponeurosis. Care must be taken to fasten the ligament loops very securely to the under side of the aponeurosis.

2. *Subperitoneal Transplantation of Round Ligaments into Abdominal Wall.*—This may be accomplished by carrying the ligament through the musculo-aponeurotic wall at the internal inguinal ring, as shown in Figures 10 and 11, or by carrying it through the wall at the margin of the rectus muscle, as indicated in Figures 12, 13, 14, 15, 16 and 17. The latter two methods give a decided forward pull.

3. *Posterior Implantation of Round Ligaments.*—This is carried out as shown in Figures 18, 19 and 20, and gives a good forward and upward location to the corpus uteri and adnexa. In one large series of cases² operated on by this method, postoperative iliac thrombosis occurred in 7 per cent. of the cases. In clean pelvic operations generally, even of the severe type, iliac thrombosis ought not to run more than 2 per cent., and when muscular activity is begun early in convalescence it is very much less. This is a troublesome postoperative complication and if extended experience shows that this method properly applied in suitable cases really causes it the operation would be contraindicated thereby. However, the thromboses were probably due principally to conditions present before operation rather than to the operation itself. There is nothing in the report to indicate that unsuitable cases were eliminated. When the broad ligament veins are diseased, as when varicosities are present or there is inflammatory infiltration of the broad ligament tissues, drawing the round ligaments through the diseased area would naturally tend to thrombosis. But it has not been shown that the operation produced thrombosis in cases where the broad ligaments were normal.

4. *Anterior Plication of the Broad Ligaments.*—Plication of the broad and round ligaments in front of the uterus, as shown in Figures 21, 22 and 23, is suitable for the class of cases under consideration. It gives good results, though the

theory of peritoneal support advanced by the originator is, in the opinion of the writer, entirely erroneous. Hertzler, who was a pupil of Waldeyer and who has studied the peritoneum for years and has written one of the best books on it, states that "the peritoneum acts as a suspensory ligament nowhere under any condition." The suspending tissue lies between the layers of the peritoneum. The actual thinness of the peritoneum may be appreciated by picking up a mesentery on the finger and noticing the delicacy of the double thickness thus presented. The success of this and similar operations is due to the subperitoneal structures (the round ligaments and fibrous and muscular tissues of the broad ligaments) gathered in and fastened, and not to the delicate peritoneum, which is intended for covering rather than support. The embryologic observation that suspending ligaments are situated where two peritoneal surfaces blend in process of development does not sustain the assertion that the fully developed suspensory ligaments contain peritoneum only.

In a case in which the extensive plication (Figs. 21 to 23) is not required, the simple methods shown in Figures 24 and 25 or that shown in Figure 26 may be employed.

5. *Posterior Plication of Broad Ligaments.*—This method (Figs. 27, 28, 29 and 30) has given good results in retrodisplacement, though it is intended principally to take up the broad ligament slack in prolapse. It requires rather extensive manipulation of the broad ligaments, and hence would tend to thrombosis in cases where the veins are already affected, as in varicose veins or inflammatory infiltration of the broad ligaments.

(To be continued.)

SOME CASES OF BRAIN SURGERY IN A COUNTRY DOCTOR'S PRACTICE *

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Any physician who has had much experience in country practice must have noticed the infrequency of brain injury cases in his work. The few cases that do occur are generally so quickly fatal that opportunity for surgical intervention is not often given; and, we regret to say, sometimes the indications for immediate, active, surgical interference are not recognized or are misinterpreted. This paper is an attempt to tell in a simple manner what was found unusual in a few of the cases of brain surgery that occurred in the practice of a country doctor, and to recite the lessons learned therefrom. It may be taken also as a protest against the waiting, or do-nothing policy occasionally adopted in similar

2. Polak: Jour. Am. Med. Assn., lxi, 1430.

* Read at the Fourteenth Annual Meeting of the Frisco System Medical Association, Springfield, May 24-25, 1915.

cases. Descriptions of surgical technic or of surgical methods and of pathologic findings will be omitted, or at least limited to making clear the conditions found, and to showing how these conditions were revealed and treated.

The so-called unusual elements may be and no doubt are quite common in certain clinics for brain injuries; but because of the rarity of such cases in the practice of a country doctor these matters attracted my attention and were observed with interest. In the recital of these cases I call your special attention to:

1. The wonderful tolerance of the human brain to severe, traumatic, disorganizing lesions.

2. The urgent need for prompt and proper surgical intervention in all crushing injuries of the skull and brain not immediately fatal.

3. The great danger of traumatic epilepsy developing after a brain injury, especially in those cases not properly treated soon after the injury.

4. The certain, prompt, and practically safe cure for trifacial neuralgia by the removal of the gasserian ganglion.

CASE 1.—Lee M., male, aged 26, a freight brakeman. Family history shows mother nervous, one sister hysterical, another subject to severe headaches. Personal history shows only the usual diseases of childhood and one severe attack of rheumatism when 16 years old. No nervous affections.

About sixteen months before my examination, while doing his work on top of a freight car, he was struck on the head by a low bridge and knocked down. Unconscious, he rolled off the rapidly moving car and fell in a stony ditch by the side of the track. He was picked up by the train crew, terribly bruised and his skull crushed in over the left ear with blood and brain tissue oozing from the wound.

He was taken to the railroad hospital at once, and put in the "dying ward," where he remained for two days. Then he was transferred to the surgical ward. After about two weeks he became violent and obstreperous, although he was unable to talk and was not conscious of his acts. A little later he was taken before the probate court, declared insane, and a guardian was appointed for him. He was then (about six weeks after the injury) returned to the hospital and operated on for depressed fracture of the skull. The next morning he could talk, was conscious of his condition and of where he was. He made a rapid recovery mentally and was never sent to an insane asylum. He also made a quick recovery from the operation for the depressed fracture but he was never strong and made only a few trips on the road again as a brakeman.

About fifteen months after the injury he had a moderately severe fit. In a short time this was repeated. After the second fit he came under my care complaining of pain in the wound area, and was "sure there was a bone pressing down on his brain." He was referred to Dr. Perry, superintendent of the Kansas State Hospital for Epileptics, who confirmed the diagnosis of "traumatic epilepsy," and advised that the wound be reopened, the scar tissue be separated from the dura and a plate put in. He further advised the raising of any bone found depressed, and, if necessary, opening the dura and the examination of the underlying tissues.

This operation was done. The adhesions between the scar tissue and the dura were found quite dense and strong, but were separated without much trouble by means of blunt dissection with occasional snipping of particularly strong bands of adhesions. The

major portion of the broken fragments had been removed at the former operation, leaving an opening in the skull about the shape and size of the bowl of a large tablespoon. At the anterior end of this opening there was found a piece of the inner table, about $1\frac{1}{2}$ inches long by $\frac{1}{2}$ inch wide, which had been left in place but depressed at its inner margin fully $\frac{3}{8}$ of an inch. This piece was removed and the internal edge of the entire opening was rounded off. The dura bulged and was opened by a crucial incision.

There were no adhesions beneath the dura except under the right upper quadrant of the opening where they seemed dense, but while lifting up the point of this quadrant with some force and using the blunt dissector on one little band more prominent than the rest, this band gave away and the whole peeled off the pia easily and quickly. It seemed like lifting a lid off the opening of a little sac or cyst that was below and that pointed straight into the brain tissue. This sac or cyst seemed about the shape and size including the length of a small pecan nut and was filled with a clear liquid.

Immediately after the dura was stripped loose, and quicker than it can be told, this cyst emptied itself of its contents in a manner that gave me the impression that the top of the cyst was being stretched, or was opening, while its walls were shortening and its bottom was coming to the surface, as indeed it was. In less than twenty seconds there was no trace of sac or cyst except the widely spread, slightly marked ring where the adhesions had been.

The phenomenon of this cyst is the unusual feature of this case. The following explanation of its existence is ventured. There must have been an area of pachymeningitis severe enough at the edges to cause adhesions all the way around, while in the center of this area there was absence of inflammation, or its degree of severity was insufficient to cause adhesions or to destroy the secretory power of the arachnoid. This secretion, and the gradual collection of the fluid, formed the cavity of the cyst by the steadily increasing accumulation pushing its way in the direction of the least resistance, or into the tissues of the brain. No doubt this increase in the intracranial pressure was an important factor in causing the pain lately complained of in the wound area.

An aluminum plate was put in. The wound healed nicely; the patient regained a large measure of his old-time strength, but in about ten months he again began to have epileptic fits with increasing frequency; finally he began to dement; developed an acute pulmonary tuberculosis and died. No necropsy.

The lessons of this case are first the folly of the do-nothing, or waiting policy. It is probable that an early operation would have prevented the meningeal inflammation that resulted in the cyst and the consequent brain pressure. Second, the futility of an incomplete operation. Had all the depressed bone been raised the inner edge of the opening rounded off and a plate put in it is possible that epilepsy might have been avoided and the patient have remained a well man.

CASE 2.—Chas. K., aged 20, an insane epileptic, of good family history. When 10 years old, while play-

ing blackman at school, was thrown backward striking his head violently on the frozen ground. He was unconscious for several hours and was not able to return to school for two weeks. Before the injury he had been an obedient, bright boy and a good student. On return to school he was dull, apathetic, and slow in his studies. He complained of headache and was inattentive. About three months after the fall he had a fit in school. In a week or two this was repeated and the fits gradually increased in frequency and in severity. His mental dulness so increased that the next fall he was taken out of school and never returned. He gradually developed so violent a temper that he was uncontrollable, and when he was 18 years old, there being no epileptic colony in the state at that time, he was declared insane and sent to one of our state asylums. After he had been there a year or more his people became dissatisfied and brought him home. His vicious temper, his habits and his irresponsibility, made him a terror to his family and friends. His father believed his skull had been crushed in at the time of the fall and as he had heard that some similar case had been much benefited by raising the depressed bone he brought the boy to me asking to have this done.

After shaving the scalp we found what seemed to be quite a distinct depression about an inch to the left and an inch anterior to the occipital protuberance. A button of bone $1\frac{1}{4}$ inches in diameter, which included all the depressed area, was taken out. The dura beneath seemed normal and was not opened.

Running up over the skull, parallel to the sagittal suture and about an inch to the left, was an apparently depressed line, as though at the time of the accident there might have been a fissure of the parietal bone. It also seemed on examining through the trephine opening that under this line the bone was slightly thickened. We could not be sure, however, this was not a natural irregularity on the inner side of the skull and nothing further was done at that time. The boy went home in a short time apparently improved.

In about six months his father brought him back asking to have that line cut out. He said there had been some improvement but the temper and habits were still unbearable. The depressed line was taken out leaving an opening in the skull $4\frac{1}{2}$ inches long by 1 inch wide. The recovery was rapid and uneventful.

After two years the father reported the boy was quite docile and obeyed readily; his temper was about like that of any other spoiled child; his fits were less severe and a little less frequent; his habits were as vile as before; but altogether there was a marked improvement, so the family could now endure the boy's presence in the home.

The unusual feature of this case is the long opening in the skull. The lessons learned are the urgent need for immediate action in raising a depressed fracture, and the benefit sometimes derived even from a late operation.

CASE 3.—Irvin W., aged 24, a carpenter. Family and personal history negative. Ten days before my examination a piece of scantling lumber $2 \times 4 \times 2$ feet long, after falling 20 feet or more, struck endwise on the right side of his head. He was knocked down and was unconscious for several hours. He was taken home, where his family physician dressed the wound. This healed nicely and was soon well; but the patient did not feel well. A numbness and twitching developed in the left thumb, then spread to the forefinger; then the numbness spread, in a less degree, over the entire hand and lower arm.

On the seventh day after the accident his family physician took him to Dr. Perry. The young man came to me reporting that Dr. Perry advised a sur-

gical operation for the elevation of a depressed fracture, believing traumatic epilepsy would soon develop without it.

Operation on the tenth day revealed a depressed fracture of the bone just above the right temporal ridge where it was crossed by the bi-auricular line. The broken piece of bone was somewhat in the shape of a scalene triangle, the long side measuring $1\frac{1}{4}$ inches, and lying parallel to the bi-auricular line. The next longest side, superiorposterior, measured about 1 inch. The dura was torn and the fragment of bone depressed at its upper angle about one-half inch. The broken piece was entirely loose and came out readily. On examination a strip of the inner table, from anterior edge of the fragment, was found to be absent. On reexamining the wound this strip or splinter of bone was discovered driven straight down into the brain tissue and was so buried that it could have been overlooked easily. It was about $\frac{1}{4}$ of an inch wide at the base and $1\frac{1}{4}$ inches long, tapering to a sharp point at the buried end.

This splinter of bone and its position in the brain were the unusual features in this case.

The patient made an uneventful although rather slow recovery from the operation. There were no further symptoms of the threatened epileptic attacks, but the sensation and the power in the thumb and forefinger of the left hand have never been fully regained.

This case again shows the error of dressing a scalp wound without positively excluding the possibility of a fracture that could accompany it. The fragments of bone in this case could have been removed very easily through the original wound and a good deal of the subsequent disturbance avoided. The promptness with which the consultant made the diagnosis and the emphasis with which he urged an early operation probably saved this young man from traumatic epilepsy which, once established, is permanent in most cases and brings with it all the deterioration generally accompanying the usual form of epilepsy.

CASE 4.—Edward G., a bright, robust, active boy, aged 13. Family history shows a paternal uncle feeble-minded, otherwise negative. Personal history negative except for the usual ailments of childhood.

While fishing beneath a wagon-bridge over the Neosho River a playmate on the bridge dropped a stone "as big as a cocoanut" on him 30 feet below. He was knocked down but soon got up and with the aid of a companion walked nearly half a mile to his home. About thirty minutes after the accident he had a very severe epileptic seizure in my presence. Examination revealed a compound, comminuted, depressed fracture immediately to the left of the posterior end of the sagittal suture.

He was taken to the hospital at once for operation and had another very severe fit while being prepared. There was found a ragged opening in the skull, practically circular in shape and about the size of a silver dollar. The broken fragments were much depressed so as to make decided pressure on the brain. The dura was punctured but not badly torn, and as there was no evidence of injury beneath, it was not further opened. The rough and irregular edges of the opening were made smooth, the pericranium was replaced and carefully sewed and the scalp likewise.

The wound drained a serous liquid for some time; otherwise the recovery was smooth and uneventful. The epileptic seizures were never repeated after the operation and the boy has seemed as bright and active as before the injury.

The unusual feature of the case was the very early onset of the traumatic epilepsy. The lesson relearned and reemphasized is the urgent need for immediate, complete operation in depressed fracture of the skull.

CASE 5.—Riley H., a boy 10 years old, was kicked on the left side of the head by a rough-shod mule. He was found lying in the stable, the wound filled with blood, brain tissue, matted hair, horse manure and other stable filth. He was at once brought to the hospital. We found him unconscious, with stertorous breathing, a very slow pulse, much shock and bloodless. The wound was cleaned and enlarged and the broken and depressed bone removed. The opening left was $2\frac{1}{4}$ by 3 inches, the long diameter being in the anteroposterior line of the skull. The toe of the rough shoe had split the bone longitudinally and driven it inward, much as a double gate swings on its hinges. The upper fragment, $1\frac{1}{2}$ inches wide by 3 inches long, had turned through nearly half a circle directly into the brain substance, of course tearing the brain before it. At least an ounce of disorganized brain tissue was removed and a rent into the left ventricle was plainly seen.

The opening into the ventricle and the large destruction of brain tissue were the unusual features in this case.

The wound was drained with catgut, the rents in the dura sewed up, a plate put in and the wound dressed. The boy soon regained consciousness but could not speak. There was some mild fever which subsided after three days. There was a continuous, profuse, watery discharge from the drain. On the fifth day he could sit up in bed and could speak a word or two but could not use the right word (paraphasia).

On account of certain circumstances in his home he was allowed to leave the hospital on the eighth day, although the wound was still draining. Otherwise his condition seemed ideal. At his home, through the meddlesomeness of some of his family, the dressings were removed and the wound became infected on the tenth day. A violent encephalitis immediately began and was followed by the breaking open of the skin wound, the opening of the dura, the discharge of the plate and the establishment of a large cerebral fungus. The boy had a high fever, lapsed into coma and died on the fourteenth day.

The lesson this case taught was the necessity for keeping the patient under responsible care until the wound entirely healed. I firmly believe this boy would have made a nice, smooth recovery from the injury and operation had the wound not become infected. Whether neuroses, such as epilepsy, insanity, paralysis, etc., would have developed as a result of the traumatism to the brain can only be conjectured.

CASE 6.—Frank G., a drayman, aged 40. A heavy box of canned goods fell from the top of a high load of dray stuff and struck him on the head. He was knocked down and dazed, but soon got up and drove his team home. He was much bewildered when he got there and soon became comatose. The accident happened at 9 a. m. and at 9 p. m. the same day his physician asked me to see the patient with him. We found the scalp wound nicely cleaned and dressed but still oozing blood. The patient was dying and passed away in a few minutes. We were allowed to make a postmortem examination of the wound only. There was a compound, depressed fracture on the right side of the skull just above the ear. The bone was badly broken but not greatly depressed. The dura was intact but bulging. On incising this

membrane about 4 ounces of fluid and clotted blood turned out. The middle meningeal artery was torn, but in such a place that it could have been ligated easily.

The unusual or rather unexpected feature of this case was that so small a hemorrhage under the dura could cause death. We had expected a larger quantity of blood under the dura than was found. The lessons learned were the error of delay in raising the bone, opening the dura, and checking the hemorrhage. This case had the least destruction of the brain tissues of any of the series, yet it was the only one quickly fatal and the necropsy showed an easy and an almost certain remedy neglected.

Six cases are too few to justify positive conclusions but it is possible to make them the basis for the belief that the brain is much more tolerant of serious, disorganizing injuries than is commonly supposed, and that its recuperative qualities, so far at least as the functions of life are concerned, are as good as those of the abdominal organs.

Now if it be true, as above shown, that the human brain is wonderfully tolerant to disorganizing lesions occurring under the ordinarily adverse circumstances surrounding accidental injury, how much more likely is it to be true that a well-designed surgical operation, when time, surroundings, general health and bodily conditions are all more or less under our control will find the brain not merely tolerant but actually ready to respond to the surgical invitation to health? In other words, is it not proper to conclude that a definite surgical operation on the skull and brain is comparatively safe when properly performed and is justifiable and strongly indicated when there is need for its performance to restore health or to relieve unbearable pain? As an illustration of the strength of this position permit me to recite briefly the history of one more case.

CASE 7.—Levi M., aged 65, male, retired farmer. Family history negative. Personal history shows nothing except alcoholism and morphinism, the result, he claims, of the ailment for which he seeks relief.

He had "suffered the tortures of the damned" for eleven years with a nearly constant tic douloureux. The slightest movement of the jaws or even a breath of air blowing on the face was likely to bring on the most frightful stabbing pains which continued for hours. Had taken treatment for his neuralgia from many physicians, both regular and irregular. Had tried all kinds of treatment, including injections of alcohol and the resection of the nerve. Had "never had one particle of relief." His suffering was so intense that his last instructions before taking the anesthetic for operation were to be sure to never let him wake up if we found we were not able to cure him. He wanted to die rather than continue to suffer.

We did the Hartly-Krause operation for the removal of the gasserian ganglion with complete success. There was very little shock and at no time did we consider the patient in great danger, although the operation was tedious and difficult.

The patient sat up in bed and smoked his pipe in sixty hours; was up town in his carriage on the

twelfth day and was out to the county fair on the eighteenth day. He had no trouble with the eye on the operated side and now after several years has never had the slightest return of the pain. At first there was some facial palsy and a decided anesthesia of that side of the face and head. The palsy largely passed away and he quickly became accustomed to the anesthesia. He still took whiskey because he liked it but claimed to have been cured of the morphin habit.

The unusual feature of this case is the rarity of the operation as compared to the other major operations on the human body. The lesson learned was that this or some similar operation ought to be considered in cases of tic douloureux that are not materially benefited by palliative treatment.

Whether or not removal of the gasserian ganglion, as in this last case, is always a justifiable operation may be a matter of opinion subject to argument. But in closing I want to emphasize the proved fact that every crushing injury to the skull should have immediate, complete surgical attention.

420½ Commercial Street.

THE TREATMENT OF OZENA AND ASTHMA WITH AUTOGENOUS VACCINES*

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ST. LOUIS

In the fall of last year Dr. Guggenheim and I endeavored to repeat the experiments of Hoffer and Koppler of the Chiari clinic, Vienna, on the cause and treatment of ozena.

After numerous experiments with rabbits we tentatively agreed that the coccobacillus of Perez was the true cause of ozena. Our experiments were not complete, however. Since then, with improved technic and the most generous cooperation of several local physicians, we were enabled to continue these experiments on a larger scale. In view of the results obtained we can at this time, without fear of contradiction, say that the organism discovered by Perez is the true cause of ozena. We regret that so few investigators have taken up this line of work, as we are very anxious to provoke criticism of our findings and conclusions.

Dr. Horn of San Francisco is, I believe, the only investigator who has done anything with the matter and come to any definite conclusions. He agrees with the findings of Hoffer, but in a paper recently read at the American Medical Association meeting he says his findings are not conclusive. Dr. Horn seems to have had considerable difficulty with the agglutination tests which Hoffer states are quite simple. We agree with the original investigators as to the simplicity of these agglutination tests, especially those cases from which we were able to obtain a pure culture. Several cases from which we obtained negative agglutination sera are in our opinion not true ozena. In no case which gave a positive Wassermann were we able to get an agglutination serum.

The vaccines prepared by Hoffer as well as those prepared by Horn were not really autogenous but a combination of seven or eight strains of the coccobacillus with the addition of a bacillus which Horn says is a coccobacillus normally found in the nose and mouth of the dog. We, however, make our vaccines with the organism taken directly from the patient to be treated. In nearly all cases giving the best results we used vaccines composed of a pure culture of the coccobacillus isolated from the patient's nose.

Our vaccines are usually prepared from the semiliquid portions of the greenish, stinky crusts. At least ten to twelve cultures are made on albuminized agar contained in large wide tubes. After twelve to eighteen hours of cultivation the various colonies are transferred to similar agar slants and again incubated for twenty-four to thirty-six hours. If a pure culture results, a suspension in normal salt solution is made and the number of bacteria in a cubic centimeter determined and 100,000,000 to 500,000,000 bacteria are injected into the peripheral vein of a rabbit's ear. In twelve to thirty-six hours three out of five rabbits die, and if the coccobacillus is present it can be obtained in nearly pure culture from the nose of the rabbit. In several instances absolutely pure cultures were obtained with the somewhat modified typical odor of the original condition. If the patient's serum from which the organism has been isolated agglutinates the bacteria obtained from the rabbit in a dilution of at least 1 to 30 the findings are positive and the organism is used in preparation of the vaccine. Frequently it is difficult to obtain a pure culture and if so an emulsion of the original culture is made and 2 to 3 c.c. are injected into the rabbit; if the coccobacillus is present in sufficient numbers a pure or nearly pure culture is obtained from the rabbit in twenty-four to seventy-two hours. In no instance did we find any other bacterium present in the nose but the Perez bacillus if cultures were used in which we were positive that the coccobacillus really was present.

After we have obtained the growth which conformed to all necessary tests, appearances both microscopically and macroscopically, in which the typical odor was present, we prepared a suspension in salt solution to which a 0.5 per cent. tricresol was added, and incubated for twenty-four hours. After proper controls to insure sterility the vaccine is transferred to small ampules for use.

We do not wash the bacteria to remove the so-called extraneous substances, as recommended by some, as we have learned that the coccobacillus produces an extracellular toxin which seems to be necessary for the best results. The results with washed bacteria have not been as good as those which were not washed.

* Read before the St. Louis Medical Society, Sept. 25, 1915.

The vaccine is put up in small ampules of single dosage. The tubes are numbered from 1 up. Tube No. 7 contains 1 c.c. of the concentrated suspension. Tube No. 1 contains 1 drop, or approximately one fifteenth of 1 c.c. Tube No. 2, 2 drops; No. 3, 4 drops; No. 4, 6 drops; No. 5, 10 drops; No. 6, 12 drops; No. 7, 15 drops or 1 c.c. of the concentrated suspension. The balance, if any, in proportion.

We find it very unsatisfactory to begin with the full amount usually recommended. Our method cuts the initial dose in half and gradually increases. This procedure has been carefully watched and found to be most successful.

Directions accompany the vaccine as follows:

Inject contents of Tube No. 1. If after twenty-four hours there is no reaction such as local pain, redness, slight swelling and occasionally a slight elevation of temperature, inject No. 2. If no reaction after No. 2, inject No. 3 in twenty-four hours. If a reaction occurs after No. 1 or No. 2 the next injection should be given in seven or eight days, and all other injections at the same interval. If the reaction is too severe after an injection, such as headache, vomiting, backache, perhaps collapse, severe chills and a very high temperature, the dose is too large and after such reaction has completely disappeared one half of the next tube should be given.

We find that the results following the treatments in the average case are more or less similar and characteristic as follows:

Tube No. 1: Twenty-four hours after injection, local pain, redness, and possibly a slight elevation of temperature. This does not occur regularly, however.

Tube No. 2: Twelve to twenty-four hours after injection, local tenderness, increased with pressure, redness, slight elevation of temperature and in a few cases slight watery nasal discharge.

Tube No. 3: After twelve to twenty-four hours, local pain usually marked, area of redness very large, 1 to 2 degrees of fever and nasal discharge quite profuse. In five or six days patient may develop a typical acute rhinitis accompanied by severe sneezing, pain in nose, profuse seropurulent discharge.

Tube No. 4: Slight tenderness, slight redness, no fever or perhaps very slight fever and a marked reduction of discharge.

Tube No. 5: Slight local reaction, no fever, and a marked loosening of crusts; odor may at this time be somewhat lessened but is usually noticeable.

Tube No. 6: Slight local reaction, no fever, complete disappearance of discharge and odor not so marked.

Tubes Nos. 7, 8 and 9: Reaction about the same as after tube No. 6 but a marked difference in the odor, which gradually becomes less noticeable.

After tubes Nos. 10, 11, 12, etc., in most of the cases the odor has completely disappeared and many patients believe they are well.

Our results thus far are very gratifying. We are certain that after a time with improved technic most cases of ozena will be markedly improved and ultimately cured.

Many of the patients who have been under treatment, with the exception of the atrophy, appear cured. Some of the patients who are not doing well did not give positive agglutination tests and in others we were not able to isolate the coccobacillus.

Asthma.—The autogenous vaccine for the treatment of asthma is at present in the experimental stage. We have not had the opportunity to try the vaccines on more than twelve or fifteen cases but the results obtained are very gratifying.

We have not been able, nor have we attempted, to isolate a specific organism in the preparation of the vaccine, but we use all pathogenic bacteria found in the material submitted.

The methods employed in the preparation of the ozena vaccine are used with the exception that no animals are required.

We will on the approach of the colder weather be able to continue our line of investigation, and if the physicians continue to furnish patients we will in the early spring present a more conclusive report on the value of this treatment for asthma.

In conclusion we wish to thank those who so generously aided us by giving the material or referring patients for the preparation of the vaccines, and to Dr. Guggenheim to whom we owe the greater part of our success, as he brought the original cultures from Vienna and gave us, so to say, "a start."

A number of typical cases of ozena and asthma were referred to us for the vaccine treatment. The vaccines were administered to the patient by the attending physicians whose reports are appended. A few received the injection in our laboratory.

REPORT OF CASES

Dr. C. F. Pfingsten, Metropolitan Building, St. Louis:

CASE 1.—Miss C. W., aged 17. Marked atrophic rhinitis with purulent crust formation of decided ozenic odor. The distressing odor and crusting in the nose were the chief symptoms complained of except occasional headaches. There was no evidence of any suppurative accessory sinus disease, the headaches in this case most probably being due to the crusts blocking the accessory sinus openings and causing a type of headache known as "vacuum headache" due to refraction of air in the sinuses.

After the third injection there is a perceptible diminution of the characteristic ozena odor and also less secretion in the nose. Patient states that she feels much better in every way. Although only three injections have been given, this case shows immediate response to treatment and bids fair to be a cure.

Dr. H. Edward Miller, Metropolitan Building, St. Louis:

CASE 1.—Mrs. E. P., aged 59, janitress. Very often during the past fifty years had severe cracking in back of head followed by excruciating headache. All previous treatments gave only temporary relief. Has always fondled dogs and cats. The fetor contaminated the room. Extreme roominess of the nose was present and covered with a large, thick, hard, greenish-black crust which was removed with difficulty. This crusting extended over the entire pharynx, larynx and trachea. General health was fair. Wassermann negative. *Coccobacillus fetidus* ozena (Perez) found and vaccine made. All local washing and treatments were discontinued.

Oct. 16, 1914: Injected 50,000,000 bacilli subcutaneously.

Oct. 22, 1914: Injected 100,000,000 bacilli subcutaneously.

Oct. 26, 1914: Injected 150,000,000 bacilli subcutaneously.

Nov. 2, 1914: Fetor almost disappeared. Patient can perceive odors again, a few scattered crusts remain, but are easily removable and the membrane looks reddened and moist. Very little local or general reaction resulted. Injected 300,000,000 bacilli.

Nov. 16, 1914: Large crust in the left nose is present, fetor bad. Slight reaction. Weekly injections were continued; severe general reaction with chills and fever followed twice.

Nov. 19, 1914: A trace of fetor is present, large crusts again appearing. Injection caused only a slight local and general reaction. Injected 600,000,000 bacilli.

July 24, 1915: The last injection was given. All crusts, fetor and pain have disappeared and patient has discontinued washing her nose for the past month. Patient reports feeling fine.

CASE 2.—Rev. A. P. F., aged 37, consulted me Nov. 11, 1914, with a typical atrophic rhinitis. The patient said he always had a nasal catarrh and persistently used a nasal douche. His sense of smell was almost gone. His wife could detect an odor to his entire body when wash was not used regularly. He feels languid and appetite is poor. Has never fondled animals. No history of lues.

A disagreeable stench comes from patient, nasal fossae unduly wide, the surface of the septum and outer walls covered with an intensely fetid, yellowish-green mucopurulent crusty discharge. After removing the crusts the membrane looked thin and pale, the inferior turbinates were shriveled, the middle turbinates about normal yet covered with a dry, tenacious secretion. Pharynx and larynx were dry and pale. The crusts and discharge were sent to Dr. Klenk who made the following report: *Perez bacillus*, 375,000,000; *pneumococcus*, 200,000,000. Autogenous vaccine was prepared and $\frac{3}{15}$ c.c. injected. The subsequent weekly injections were given in increasing doses. Nasal douching was continued during the injection period. The injections caused considerable local reaction and some general disturbance. After the third injection the patient feels as if he has had a bad cold. Three batches of vaccine were made and injected, resulting in a slight betterment to his general condition, although the trophic condition has improved but little. Dr. Klenk reports inability to get agglutination in this case.

CASE 3.—Mrs. F., married, aged 55. First seen Feb. 15, 1915. Complained of a dry nose for many years with continued crusting; Wassermann negative. Fourteen weekly injections were given and all signs of crusting, odor and nasal discharge ceased. Patient reports feeling perfectly well.

CASE 4.—Mr. R., aged 50, married, teacher. First seen July 7, 1914. Complained of hoarseness and a

nasty discharge from the nose. Examination revealed a pansinusitis with an atrophy. The odor was very disagreeable and small crusts present. Fourteen subcutaneous injections were given and patient improved rapidly.

CASE 5.—Mr. M., married, aged 29 years. Called to see me the first time on July 24, 1915. Complained of hacking cough and a fulness in throat, for some time fearing a tubercular infection. Examination revealed a pungent odor, crusting of the entire nose, nasopharynx, larynx and trachea. Wassermann negative. Marked improvement with a coryza-like swelling and discharge was noted after the first injection. The cough was much better. After three injections the pharyngitis sicca disappeared, fetor is better and crusting very much diminished. Thus far eight injections have been given with the fetor almost entirely gone, very little crusting, pharynx moist, and cough disappeared. Patient never felt better in his life.

Dr. Greenfield Sluder, 3542 Washington Avenue, St. Louis:

CASE 1.—Mr. S., furniture salesman, aged 27, single. Had nose condition since childhood. Diagnosis made about five years ago, accessory sinus involvement with severe headaches at times; odor typical and horrible at times. All form of treatment gave no results whatever. Wassermann negative. Autogenous vaccine prepared Feb. 24, 1915.

First injection, March 3, 1915, no reaction.

Second injection, twenty-four hours later, with a slight reaction.

Third injection, March 11, marked local reaction, slight serous discharge from nose and mild symptoms of coryza. Discharge quite marked after six days.

Fourth injection, March 18. Local reaction, slight fever, nasal discharge not so profuse. Injections given at intervals of one week. Odor markedly diminished after No. 6, not noticeable after No. 10.

Second lot of vaccine prepared. Injections given weekly. Patient apparently well; no discomfort, no odor or discharge. Very slight crusting.

CASE 2.—Mrs. N., housewife, aged 49; had nasal condition with severe, almost unbearable headaches for ten to fifteen years. Patient claims that she suffered with headache almost constantly for that length of time with perhaps half a day of relief. Under treatment of various doctors for all sorts of conditions.

Diagnosis made June 14, 1915. Symptoms characteristic, large nasal cavities, extreme atrophy, nasty odor, greenish purulent discharge, large semisolid crusts, Wassermann negative. Autogenous vaccine prepared. Injections as follows:

No. 1: No reaction.

No. 2: Slight local Reaction.

No. 3: Marked local reaction, some fever, terrific headache.

No. 4: Local reaction not marked, slight fever, nasal discharge serous in character. No headache. Headache disappeared second day after No. 4. Patient five days without headache (says this is the longest time she has ever gone without headache).

No. 5: Says her nose feels as if it would come off; has a so-called feeling of "loosening up."

Nos. 6, 7, 8, 9, 10, 11 and 12: Slight local reaction; no fever, no headache for eight weeks. Patient felt so good that she decided to discontinue treatment against our advice. Returned in three weeks with a headache but no other symptoms. Injections were continued weekly after her return. Patient feels confident that she is absolutely well and says she never felt better in her life.

CASE 3.—Miss S., aged 24; had the condition for at least fifteen years. No treatment of any kind did her any good. Has various complications which are not the result of this condition. Wassermann negative.

A lot of fifteen tubes were injected with nearly complete disappearance of odor.

A second lot is now being used. This patient, however, has some crusting and a discharge but no odor. She also complains of the loss of the sense of smell. Otherwise she says she is well. The odor in this case was the main factor and it was for this symptom she sought medical advice. She receives injections every week.

Dr. W. M. C. Bryan, Humboldt Building, St. Louis:

CASE 1.—February, 1915, Miss B., aged 35. Gave history of persistent foul discharge from nose with crusts. Examination revealed atrophic changes. Twelve injections of vaccine given with good reactions. Discharge, crusts and odor grew less, and had practically ceased at end of course of treatment. In August there was slight discharge, and slight odor, but not enough to bother patient.

CASE 2.—Sadie P., aged 12. History of continuous foul discharge for two years. Examination revealed blackish crusts with atrophy of inferior turbinates.

August 16, vaccine treatment began and to date patient has had seven injections. There has been a general improvement, less discharge, fewer crusts, much less odor.

CASE 3.—Ethel H., aged 14. Headaches, nasal discharge with crusts. Examination revealed atrophy of both inferior turbinates. Treatment with vaccine began August 16. To date eight injections have been given. General improvement. Odor much less, discharge and crusting slight.

Dr. I. D. Kelley, Jr., Humboldt Building, St. Louis:

CASE 1.—H. H., aged 33. Family history negative. Personal history unimportant, except for gradual onset of nasal condition covering a period of years before patient was seen by me, October, 1912.

Patient complained of nasal discharge, crusting, dryness in nasal pharynx and ability to dislodge crusts from same. Had been treated by various specialists in this country and abroad for trophic rhinitis and nasal pharyngitis with little success, process gradually increasing in intensity.

Examination of the nose and nasal pharynx revealed atrophy and crusting, especially in the nasal pharynx. During a period of three years treatment consisted of freeing the mucous membrane of crusts, massage, and local applications of various solutions, argyrol douches, etc. Process showed only slight but persistent advancement.

In February, 1915, vaccines were made from nasal crusts by Dr. Klenk. Patient received fourteen injections at intervals with practically no reaction except slight chilly sensations and local redness following injections of Vaccines 3, 4 and 5. Local condition improved, crusting markedly diminished, and odor lessened.

Examination three months after patient received last injection having had no treatment during this period, nose and nasal pharynx still revealed crusting and atrophy, but process still showed signs of improvement.

Dr. E. W. Saunders, 1541 South Grand Avenue, St. Louis:

CASE 1.—Mr. E., seen with Dr. Sluder. Had been treated all summer for hay fever; had a most persistent cough without fever or much expectoration, as far as I can remember. With the first advent of cool weather, bronchorrhea was present attended by the most distressing asthma and fever. The expectoration was purulent and extremely profuse.

Treatment by autogenous vaccine was instituted as soon as possible and the relief was prompt and complete. Within fifteen days the purulent expectoration had ceased and the fever left the patient. The cough ceased entirely within four weeks, and the patient was sent to Florida for the winter to escape the danger of recurrence. He has remained well in this climate ever since.

All the physicians concerned in this case were united in attributing speedy recovery to the autogenous vaccine.

CASE 2.—Dr. B. came under Dr. Miller's care for a septicemia of the ethmoid and was about to be operated on when bronchorrhea developed with a most incessant and distressing cough, and septic temperature rising to 102 plus every afternoon. The stomach refused all nourishment and medicine, and the condition of the patient became alarming by reason of extreme prostration and incessant coughing.

Sputum sent to Dr. Klenk who prepared an autogenous vaccine which was administered at intervals of three to five days in doses increased by arithmetical progression. Within three days after the first dose improvement set in and continued uninterruptedly to complete recovery after the fourth dose. The cough ceased entirely after the purulent sputum early in the treatment had become light and frothy. Eucalyptus in full doses was administered as soon as the stomach became tolerant to food and medicine. Temperature perfectly normal a few days after the third dose.

CASE 3.—Mrs. M., aged 75. Purulent bronchorrhea, with persistent cough and distressing asthma symptoms and fever. Medicinal treatment of no avail. Began to improve after the first dose of autogenous vaccine, and at the present time after 10 doses, given at 6-day intervals, is free of fever, cough and expectoration; in fact, is in her usual health.

Dr. T. R. Ayars, Delmar Building, St. Louis:

CASE 1.—Miss L., nurse, aged 28, weight 97, nativity Ohio. Had asthma for a very long time. The usual remedies gave but little relief. After a slight improvement she returned to Ohio. She suffered severely and again returned to St. Louis. Appetite poor and had lost some weight; was given several doses of phylacogen (P. D.), producing a marked reaction with a very slight improvement. Condition grew worse, until about the time we heard a paper read by Dr. Babcock of Chicago at the St. Louis Medical Society. Vaccine was prepared from the sputum.

No. 1 given March 11, no reaction.

No. 2 given March 13, slight reaction.

No. 3 given March 15, with a very severe local reaction.

Nos. 4, 5, 6, 7, 8, 9, 10, 11 and 12 were given at intervals of one week. About two thirds of each dose was given following the severe reaction of Tube No. 3. Dose given according to reaction obtained.

Patient steadily improved. The last dose was given May 15, when she was dismissed and returned to work June 1; has been well ever since.

CASE 2.—Miss S., aged 27, weight 85. Had asthma since childhood; treated for the last five or six years. Adrenalin chlorid 1/200 gr. hypodermically gave slight relief. Autogenous vaccine was prepared from the sputum and the first injection given April 1, 1915.

No. 2 given April 8; No. 3, April 13; No. 4, April 19. A severe general reaction followed the last injection. This frightened patient somewhat and additional treatment was refused. She received other injections May 4 and 13. Patient has since failed to appear.

Metropolitan Building.

DISCUSSION

DR. GEORGE IVES: I would not have volunteered to discuss this paper because I feel that I do not know sufficient about the subject, but since I have been called on in this manner I will consent to say what I can.

I cannot take the optimistic attitude of the essayist, for the reason that it would be contrary to all experience in vaccine therapy to obtain favorable

results or beneficial results in every case. I do not doubt that the coccobacillus is the etiologic factor in ozena, but certainly there are going to be a great many disappointing results, judging from experiences in vaccine therapy even with the use of autogenous vaccination. This is not only because there are people who do not respond in the formation of antibodies but there are certain anatomic reasons which would make it improbable that lasting results could be obtained. It is quite probable that in many of these cases you will get results during the time the vaccine is being administered but many cases, especially those in which the condition is of some duration, will relapse.

DR. CHARLES L. KLENK: It seems to me that the statement made by Dr. Ives that the ultimate results of the treatment are questionable is somewhat premature, but I believe the nasty odor from this condition, is the main factor and what we have done so far by getting rid of this odor is very important. Of course, the atrophy is hopeless and will remain. With the wide nares we will have more or less crusting due to the circulation of air and we will never be able to get rid of that. I am glad to say that only in those cases in which we did not get a positive agglutination serum of which there were four or five, were the results not as we expected, but in every case there seemed to be some improvement.

ESSENTIAL HEMORRHAGE OF THE UTERUS*

C. H. WALLACE, M.D.
ST. JOSEPH, MO.

In order to intelligently discuss this rather rare condition it is necessary to mention other causes of uterine hemorrhage for the purpose of elimination inasmuch as the diagnosis is largely arrived at by this means.

Hemorrhage from retained secundes. The history of the case, the regularity of the bleeding with exacerbation at the menstrual epoch and the physical signs of subinvolution make the diagnosis as to the cause almost positive.

Hemorrhage from placenta previa. The history of gestation, symptoms and physical evidence of an enlarged uterus, history and symptoms of pregnancy point fairly well to the origin of the bleeding.

Hemorrhage from fibroid tumor of the uterus. Its usual presence in middle life, the characteristic menstrual history (always menstrual never intramenstrual) when once ceases it never occurs until next period. This, with the physical evidence to the hand trained in bimanual examination makes the diagnosis reasonably certain.

Hemorrhage from endometritis. A careful clinical history of an inflammatory disease or exposure to infection and physical examination give a suspicion to a reasonably experienced observer as to the probable origin.

Hemorrhage from chronic oophoritis or cystic ovary. More or less well marked nervous symp-

toms and digestive disturbance, well pronounced ovarian tenderness, intensification of the pelvic symptoms by intra-abdominal pressure incident to gravitation of blood to the parts from exercise, coition, constipation, etc. The physical signs in the cystic variety of the enlargement indicate an avorian pathology as to the probable origin of the bleeding.

Hemorrhage from tuboovarian cyst. Pressure symptoms radiating to the rectum giving rise to hemorrhoids and dysentery, to the bladder giving rise to irritable bladder or retention of urine and pressure upon the ureter with urethral obstruction and hydronephrosis and the physical signs of a tumor of the adnexa give a well grounded inkling as to the cause of the bleeding.

Hemorrhage from deciduoma malignum. The history of a recent delivery or expulsion of a mole, rapidly followed by progressive loss of flesh and strength, further history of clots expelled with pain and the physical evidence of a large, boggy uterus, the presence of vegetation to the finger introduced into the patulous is conclusive of malignancy being the background.

Uterine hemorrhage due to the senile vascular changes can be readily diagnosed by elimination of cancer from physical examination, and the presence of arteriosclerosis is made positive by the blood examination. Hemorrhage from constitutional idiosyncrasies, such as hemophilia, which can be eliminated by careful and painstaking history.

REPORT OF CASE

Mrs. B., from Oklahoma, admitted to Ensworth Hospital, Dec. 6, 1912, aged 35 years. Mother died at 69, father living and in good health. Never had a serious illness. Menstruated at 14, too frequent, and always with pain. Negative history as to Neisserian infection or inflammatory trouble of the pelvis. Mother of one child, aged 8. No miscarriage. Birth relieved painful menstruation. Three years ago she flowed for six weeks following menstrual epoch. Menstruation was normal for three or four months and then there was a continued flow for three months. At the end of this time she was much exsanguinated. Menstruation was as usual after this time for one year. Six months ago she began to flow following her menstruation, and the flow has continued more or less.

Physical Examination.—Patient is pale; hemoglobin, 60; fairly well nourished, heart and lungs normal, kidneys normal. Uterus is in place but slightly enlarged and freely movable. Has a slight bilateral cervical tear. Adnexa apparently normal.

Operation.—Curettement and trachelorrhaphy under ether. The patient was most thoroughly curetted with a sharp instrument; very little debris was removed. Uterine cavity mopped with carbolic and iodine. Scar tissue was removed from the angle of the tear in the cervix and raw surfaces coapted with chromic gut. Uterine drain introduced. Flow ceased after curettement until the next regular menstrual epoch when it began with greater intensity than before. At the time of curettement she was told of the probability of the procedure not giving permanent relief and in that event hysterectomy was indicated. She returned March 10, 1913, four months after former operation.

* Read at the Fifty-Eighth Annual Meeting of the Missouri State Medical Association, St. Joseph, May 10-12, 1915.

Operation.—Hysterectomy, right salpingo-oophorectomy and appendectomy. Median incision was made and the cecum was brought into the field and a slightly abnormal appendix removed in the usual way. An adhesion, the width of the finger, extended from the base of the appendix to the abdominal parietes. This was cut between ligatures. The uterus was delivered, the right tube and ovary found diseased and removed. The usual operation for hysterectomy was done. Round ligaments were anchored into the cervical stump and raw surfaces covered with peritoneum.

Gross Pathology.—The appendix was of the chronic catarrhal type, serosa slightly injected. Adhesion band anchoring the colon. Right ovary cystic and the size of an English walnut, tube slightly inflamed. Uterus slightly enlarged. Endometrium was injected and had the appearance of plush. Convalescence uneventful. Left the hospital the fourteenth day. Patient has been in perfect health since.

Pathologic Report, by Dr. Good.—Specimen consisted of uterus, tubes and one ovary, all in preserving fluid.

Uterus.—The mucosa is considerably thickened and its surface irregular in places; projections like small villi are present. The glands are enlarged, tortuous, cystic and irregularly dilated. The epithelium is clear, swollen mucoid. The dilated glands are softened, quite filled with mucus and desquamated epithelium. The interstitial stroma is infiltrated with leukocytes and the interstitial cells also have proliferated. In places there is hemorrhage into the mucosa.

Diagnosis.—Chronic endometritis of the productive or proliferating variety. The uterine muscle is quite normal, as are the blood vessels.

Tube.—Sections made from various parts show no pathologic changes.

Ovary.—Somewhat enlarged. Contains one quite large cyst, ruptured, and several smaller cysts. These are lined with cylindrical epithelium and the contents show no cellular or blood debris. The ovarian stroma is normal.

Diagnosis.—Retention cyst of the ovarian follicles.

Mrs. E., Buchanan County, admitted to Ensworth Hospital, Oct. 27, 1913, aged 35 years. Diagnosis, uterine hemorrhage. Has always been a healthy woman, never had a serious illness. Menstruated at 16 and was practically normal. Mother of two children, youngest 9 years. About fifteen months ago the flow continued after her regular menstrual epoch and subsides only a few days at a time since, being excessive at each succeeding menstruation. A few nights ago she had a pronounced hemorrhage. She has but one symptom, namely, bleeding.

Physical Examination.—Strong, well built woman. Heart, lungs and kidneys, normal. Uterus, mobile, slightly enlarged. Patient was told a curettement might relieve the bleeding but was not positive.

Operation.—Dilatation and curettage. Uterus is found to be one-third larger than normal. Walls very dense and hard and a sharp curet removed only a small amount of tissue. Diagnosis, probably essential hemorrhage of the uterus.

The patient returned to the hospital April 1, 1914, four months after curettement. Curettement, she thought, relieved the condition for a short time. On its return it kept up constantly. Hysterectomy advised and accepted.

Operation.—Hysterectomy, right salpingo-oophorectomy and appendectomy. Incision was made in the median line, cecum was brought into the field and a bulbous appendix was removed in the usual way. Right ovary was cystic, tube thickened and slightly congested, both removed. Left ovary conserved.

Usual operation for hysterectomy was then done. Round ligaments were attached to the cervical stump and raw surfaces covered with peritoneum.

Gross Pathology.—Uterus slightly larger than normal. Endometrium practically normal. Right ovary cystic. Convalescence was uneventful and left hospital in about sixteen days after operation. Patient has remained well since.

Pathologic Report by Dr. Good.—Specimen consisted of uterus, tube and one ovary all in alcohol.

Uterus.—Sections were made from various parts, many extending completely through from the mucosa to muscle and serosa.

The mucosa is not thickened; in fact, is perhaps slightly thinner than normal. The glands are not dilated nor tortuous and their lumen is empty. I am inclined to think the glands are less conspicuous than in a normal uterus unless it be at or after the menopause. Between the glands there is no increase of cellular elements. Perhaps there is a moderate fibrosis of the mucosa. The blood vessels are not dilated; there is no apparent congestion. The muscle of the uterus is completely normal so far as I can determine. The blood vessels are normal.

Diagnosis.—There is very little pathology present. Perhaps a slight change toward atrophy and fibrosis of the mucosa.

Ovary.—The ovary is enlarged after being in alcohol. It contains some six or eight cysts. The largest of these had been ruptured. The small ones range in size from a pea to three times that size. The cysts are lined with a cylindrical epithelium. The contents were evidently serous for no cellular debris or blood is present. The ovarian stroma is normal.

Diagnosis.—Retention cysts, or hydrops follicularis originating from the ovarian follicles.

Tube.—Sections made from the tube, both fimbriated end and near the uterus, are quite normal.

Zelma S., admitted June 29, 1914.

History.—Good family history. Had whooping cough at 5, scarlet fever at 9, infantile paralysis at 11. Has had bed wetting from infancy. Menstruated at the age of 12; very irregular and for the past year has been almost continuous, at times to a degree of exsanguination. No pain, no nervousness. Poorly nourished, pale—hemoglobin, 58. Heart and lungs, normal. Left leg partially paralyzed from infantile paralysis. Uterus enlarged and retroflexed, body tender, right ovary prolapsed and tender.

Diagnosis.—Menorrhagia, uterus displaced.

Operation.—Dilatation, curettage, Baldy-Webster suspension, removal of cyst from the right ovary, conservative excision of the left ovary, and appendectomy.

Operative Findings.—Uterus retroflexed and slightly enlarged. Right ovary enlarged, capsule thickened, contained several small cysts. Ovary split and cysts removed. Tubes slightly congested, but patulous. Appendix apparently normal.

Convalescence.—A favorable prognosis was given, convalescence was uneventful and patient left the hospital at the end of two weeks. Mother returned with the patient in five months and reported that she did not flow for a month after operation, but it then returned more profusely than ever and had been continuous. Only symptom present, except the hemorrhage, was a bearing-down sensation in the rectum.

Diagnosis.—Essential hemorrhage.

Operation.—Hysterectomy with conservation of the right ovary. Convalescence uneventful. Patient left the hospital the sixteenth day. Reports from the mother state that she has gained 30 pounds in weight, bed-wetting habit much improved and practically normal health.

Pathologic reports from Dr. C. A. Good and Professor Wassen of the University of Michigan, do not reveal anything in the pathology of the organs locally that would explain the condition.

These three cases would seem to typify what has been termed essential hemorrhage of the uterus by Dr. J. B. Murphy, who claims to have only four cases in his experience.

Physical examination of these cases shows the uterus to be slightly larger than normal but perfectly mobile.

The menstrual history differs from that of carcinoma and fibroid.

The absence of suspected conception in these cases excluded the possibility of the flow being retained secundes.

Hemorrhage from the deciduoma runs a rapid malignant course while the hemorrhage in these three cases have extended over a period of more than one year in one, two years in the other two. Murphy believes this condition to be allied to uterine fibrosis which often occurs in the young and may be associated with fibrosis.

The case of Mrs. B., in which the pathologist makes the diagnosis degenerative or proliferative endometritis, would suggest this as being the cause of the hemorrhage hence not properly coming under the classification of essential hemorrhage. The answer to this would be the absence of all usual symptoms accompanying an endometritis, namely, pain, fever, headache, backache, foul discharge together with an absent history of neisserian infection or inflammatory condition. The further fact that a most thorough curettage failed to relieve the hemorrhage but rather intensified it, might indicate that the abnormal condition of the endometrium had been a protective effort on nature's part to control the bleeding and not a cause.

Treatment in these cases is hysterectomy or obliteration of the uterine cavity by atmocauterization. The latter is unsurgical, a blind procedure, very dangerous and not under the control of the operator and an unscientific agent which I believe is obsolete.

Eighth and Jule Streets.

DISCUSSION

DR. C. A. POTTER, St. Joseph: I told Dr. Wallace, before he read the paper, that I was going to discuss it adversely. I am one who does not believe in the conception or teaching of essential hemorrhage of the uterus. I do not believe the idea is right in its conception or in its teaching. I think surgeons very often overlook the constitutional as well as the local causes of hemorrhage. There are several constitutional causes of hemorrhage, such as hemophilia, cardiovascular disease, tuberculosis and other conditions of cachexia. As to the local causes, if we are to allow this condition a place in physiology, rather than pathology, it would have to be a condition of the endometrium in which we found absolutely no pathology, to make it an essential hemorrhage of the uterus. In examining some 300 cases that had been curetted, in a gynecologic clinic, there were found very few normal endometria and in these

the curettement had been done merely as an accompanying operation with other operations in the pelvic cavity.

In doing an operation on the gynecologic organs the utmost conservatism should be followed. I would hesitate very, very long before I would attempt a hysterectomy for this condition on a woman under 35 or before the menopause. In young women—girls from 15 to 25 years of age—the nervous effect of removing the uterus on both the family and the girl cannot be overestimated. In the last two years I saw a girl who started to menstruate when she was 13, had practically menstruated continuously except shortly after curettements from that time until about 18 years of age. Her mother was very much opposed to hysterectomy, although it had been advised on several occasions. I did not advise hysterectomy, and after four curettements she has had no recurrence of the bleeding for over nine months except at the menstrual period.

In the young girl general hyperplasia of the endometrium has a great deal to do with this question of hemorrhage from the uterus and I believe, if you have anything to indicate a deviation from the normal, there is some general or local pathologic process to cause the hemorrhage.

DR. JOHN G. SHELTON, Kansas City: If I judge correctly of the paper, the essayist means by essential hemorrhage of the uterus those cases in which we are unable to find any pathology. He includes the cases where we have done all we can do to relieve the condition and there still continues an exudation of sufficient blood to endanger the life of the patient, and the only way that we can stop it is by hysterectomy. It has not been unusual to find this occurring in young women and we are indeed justified in hesitating to do hysterectomy in women under 40. On the other hand, we all realize that we have in women a condition such as has been described in the cases cited. We have all had cases where the patients have been curetted several times, have been placed in bed, under inertia, and everything used, and still they bleed so that they will have to die unless something is done. These cases may be called essential hemorrhage. It makes no difference if there is a slight pathology; if we say these cases are due to change in the blood vessels; if we say, as some of the older authors say, that there are varieties of fibroma which we cannot distinguish, perhaps, without dissection. But whatever we recognize as the cause we must look at it just as a clinical condition. I believe these cases are rare, but it is certain that they do exist. While it may be, as stated by the last speaker, that surgeons overlook constitutional causes there are many men who do surgery that are not necessarily looking for surgery. Sometimes you will have to do a hysterectomy on a woman to stop hemorrhage when you cannot tell what the cause is.

It is a good thing to have our attention called to these cases. Hysterectomy may be the only means of relief. On the other hand, it is a great harm if it is not necessary.

DR. CHARLES H. WALLACE, St. Joseph (closing): I was very glad that Dr. Potter discussed the paper, but sorry he seemed to fail in comprehending my whole paper and my conclusion. Dr. Shelton caught the gist of my paper and his discussion was to the point. He mentioned that a great many women are made nervous invalids by operations on the adnexa and the uterus. I readily admit that. I think it is a great wrong to take out a woman's ovaries, to unsex her and to stop the menstrual function previous to the menopause. In all my cases you will notice that the ovary was left, even in the woman 38 and the woman 35. In those cases, examination later made by the pathologist showed that we might as well have left both ovaries because they were not pathologic and were not causing the hemorrhage. I took

out a part of the ovaries and of the tubes to demonstrate to my own mind whether I was making a mistake or not.

In regard to the young girl of 14, this case came in after I had written and completed the first part of the paper. That was a child who was in such shape that it was only a question of a few months when there would be such profound anemia as to preclude a surgical procedure. In this case I felt that the correction of the retrodisplacement and the pathology that was present would cure her and so told her mother. This patient went back home and returned with a worse condition than before, with a hemoglobin count of 50, emaciated and pale, and then I decided to remove her uterus. I left her with a tube and an ovary, and in four months she gained 30 pounds, her general nervous weakness had largely subsided and her bed-wetting habit, which had been present since infancy, much improved.

The point I wish to make is that this paper goes out not with a view of advocating or defending hysterectomy done indiscriminately for uterine hemorrhage, but hysterectomy done only after a careful investigation and probably after a primary operation without relief. Then and then only is hysterectomy to be resorted to.

PNEUMONIA OF CHILDHOOD*

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Croupous or lobar pneumonia occasionally occurs in childhood and it is possible that some of the other forms of pneumonia may so occur, but by far the greater number of cases of pneumonia in childhood are catarrhal or lobular pneumonia. I shall therefore confine myself here to the latter disease. It is probable that lobular pneumonia never occurs without involvement of the smaller bronchioles or capillary bronchitis, and that the latter does not occur to any extent without an involvement of the alveoli, or lobular pneumonia. It therefore seems best to consider the two conditions together, under the name of bronchopneumonia, and this is the name adopted by the best recent writers and by the Census Bureau in the international list of causes of death to be used in reporting vital statistics.

Bronchopneumonia may be defined as an acute catarrhal inflammation of the bronchioles and alveoli of the lungs, involving the mucous membrane and the interstitial substance of their walls, and characterized by fever, cough, dyspnea, expectoration, pain and soreness in the chest and great depression. It may be due to the extension downward of a simple catarrhal bronchitis, or it may follow one of the infectious fevers, especially those in which catarrhal bronchitis is an element, as measles, influenza, scarlet fever, diphtheria and whooping cough, although it is sometimes a primary affection in itself.

Among the predisposing causes may be mentioned an enfeebled constitution, debilitated by

previous disease of any kind, bad hygiene, impure air, poor and insufficient or improper food and clothing, and a damp atmosphere with great variations in temperature. It is therefore much more common among the poor and in winter; in fact its frequency varies almost in an inverse ratio with the temperature and with the social standing of the family.

Like most other acute diseases, the exciting cause must probably in all cases be attributed to microorganisms. In those cases that occur primarily, the pneumococcus seems to be the chief cause, while in those cases following diphtheria and influenza, the Klebs-Loeffler and Pfeiffer bacilli of those diseases seem to be the chief causes. The germs of scarlet fever, measles and whooping cough have not yet been discovered, but when they are they will no doubt be found to be the chief cause of pneumonia following those diseases. In all cases numerous other microorganisms are also found, such as Friedländer's bacillus, *Streptococcus pyogenes*, *S. albus* and *aureus*, and in some cases the colon bacillus and the typhoid bacillus have been found. It will thus be seen that the disease is usually a mixed infection, and this is not surprising when we bear in mind the ease with which germs of all kinds gain access to the respiratory organs and the fact that many of these germs can be found at all times, even in healthy individuals where they seem to lie in wait for the system to become depressed in some way to give them a chance to multiply and produce the disease.

This is a fact that occurs in many diseases besides pneumonia and which shows the importance of keeping the condition of health as high as possible at all times by proper hygienic conditions, that the natural defenses of the body may be in as efficient a condition as possible to ward off the dangers that at all times surround it.

Excepting the cases that are primary, the disease usually commences as a bronchitis, involving first the larger tubes and gradually extending downward to the smaller ones and to the alveoli. The earliest change is a hyperemia of the mucous membrane and interstitial substance with swelling, accompanied by an abnormal secretion of mucus and the proliferation of young cells of the mucous membrane, and the extravasation of leukocytes, forming a yellowish, creamy, purulent material, which blocks up the bronchioles and air cells and thus excludes the air from them. There is not, as a rule, the amount of fibrin and red cells as found in croupous pneumonia, although there is more of an approach to it in the primary form of the disease. The peribronchial tissues are infiltrated with cells and the capillaries are distended, which by pressure compresses the bronchioles and air cells, already more or less obstructed, and thus helps to exclude the

* Read at the Wright County Medical Association, Hartville, May 6, 1915.

air from the affected lobules which become collapsed.

Both lungs are affected but not equally in all parts. Lobules supplied by bronchioles that are plugged by secretions may be collapsed, while adjoining ones not so obstructed may be distended and emphysematous. The lower and back part of the lungs are usually more obstructed on account of the greater difficulty in clearing the bronchi of the secretions, especially in subjects greatly debilitated and lying continuously in the one position on the back, while the upper and front parts are more emphysematous. Sometimes there are solidified areas of considerable extent in various parts, while other areas seem to be nearly or quite normal. At other times the disease may be confined so nearly to one lobe as to simulate lobar pneumonia very closely, and these cases resemble that disease also in so many other respects that it seems quite possible that they really are lobar pneumonia modified to resemble bronchopneumonia by the peculiar anatomic conditions existing in the lungs of the young child.

The surface of the lung has a mottled appearance. The hepatized lobules are of a dark mahogany brown color and firm liver-like feeling, becoming more grayish or yellowish in the later stages. The collapsed lobules are of a more violet color and have a sunken flabby appearance. The pleural surface of the lung is more or less roughened and covered with a pellicle of coagulated fibrin and pus cells, especially over the hepatized portion.

On section of the lung a mottled appearance is seen. Some lobules are filled with the exudate, hepatized as it is called. Others are collapsed. Others are nearer normal and others are emphysematous. The affected parts are reddish gray changing to a yellowish gray in the later stages, due to the rapid changes taking place in the newly developed cells. If these changes be completed, absorption takes place and the consolidation is removed. If it remains incomplete the masses become caseous and the disease becomes chronic. Many such cases become tuberculous either from a subsequent infection or from the pneumonia lighting up a previously latent condition.

There is no regular course for the progress of the disease. It may be advancing in some portions of the lungs while resolution is taking place in others. Nor is there any definite duration for the different stages in any part.

The primary form usually begins suddenly, with convulsions and a rapid rise of temperature, which may reach 105 or 106 F., and runs a more definite course and is quite likely to end by crisis, thus resembling croupous pneumonia, as before mentioned. Remembering that in children the initial chill of most diseases is usually replaced by convulsions, we see the resemblance more clearly.

The secondary form, which is much more frequent and preceded by symptoms of bronchitis for a variable period, comes on more gradually and without a chill or convulsions. The fever is irregularly remittent and varies usually from 102 to 104 F. The skin is usually hot and dry, but is frequently moist, especially in the later stages. The cough is hard, dry and distressing, but becomes looser as resolution takes place. The respiration is rapid, laborious and shallow, often reaching forty to sixty per minute, or even eighty in some cases, and is accompanied with a grunting expiratory sound. The accessory muscles of respiration are brought into use, and as the lungs become solidified and thus unable to admit air the lower part of the chest walls and intercostal spaces sink in with each inspiratory effort. The pulse becomes rapid, often reaching 140 or more, becoming thready and difficult to count. As the oxygenation of the blood becomes more deficient restlessness gives way to stupor, the cough becomes less urgent, the child no longer struggles for breath, cyanosis becomes marked, and death ends the scene. When resolution takes place it is usually by lysis, several weeks elapsing before complete recovery.

When bronchopneumonia follows diphtheria, measles, scarlet fever, influenza or whooping cough, its symptoms become added to those of the former disease at a time when it would otherwise be progressing toward recovery, and greatly adds to its danger, in fact, a large share of the deaths occurring in these diseases are due to this complication.

Bronchopneumonia is not a self-limited disease. The primary cases usually run a short course, while the secondary ones are very indefinite. They may end fatally in three or four days, or last as many weeks or even longer. Favorable cases may last one to four weeks, or even as many months. Some cases recover even after a still longer duration, while others develop tuberculosis and finally die.

Brain symptoms, as stupor, convulsive tremors and opisthotonos, are sometimes so prominent as to lead to fear that the brain is becoming involved, or in case the other symptoms are not so well marked even to a diagnosis of cerebrospinal meningitis.

In the way of physical examination it will be seen that the chest does not expand naturally in inspiration. There is a retraction of the intercostal spaces and lower chest walls, especially over the anterior ends of the short ribs, while the upper part expands in a restricted, jerky manner.

Percussion may or may not reveal scattered areas of dulness. There are usually areas of impaired resonance, but the compensatory emphysema makes it difficult to detect the solidified areas unless they are of some size.

Auscultation reveals vesiculobronchial breathing, later becoming bronchial in some

places, with small bubbling and some crepitant râles. As resolution takes place, the râles become larger and more numerous. They are most numerous over the lower and posterior parts of the chest.

The principal sequelae of bronchopneumonia are emphysema and pneumonic phthisis, and these are quite common.

Bronchopneumonia is distinguished from bronchial catarrh by the large bubbling râles and the absence of dyspnea, fever and dulness on percussion in the latter.

Croupous pneumonia is a unilateral disease of sudden onset, high fever and usually beginning with a chill and ending by crisis in a week or ten days, and having distinct signs of solidification in one lobe.

Acute tuberculosis is sometimes hard to differentiate. The history and course are important, and if tubercle bacilli are detected of course it is positive.

Edema of the lungs has a short dry cough and dyspnea but lacks the previous catarrhal history and high temperature.

In atelectasis the dulness and râles are modified or even disappear on change of position and fever is not usually present.

With bronchopneumonia cerebral symptoms sometimes occur so closely resembling tuberculous meningitis as to make it possible to differentiate only by watching the course of the disease.

The prognosis is much more favorable in primary than in the secondary forms. The condition as a result of the preceding disease helps largely to determine the result. The younger the child the greater the danger. During the first year the greater share die. Under 5 years the mortality will range from 30 to 50 per cent. Those in bad condition to start with are apt to develop pneumonic phthisis, although some may recover even after eight or ten months' illness.

There is no specific treatment for bronchopneumonia, but the patient must be made as comfortable as possible and the symptoms treated as they arise. The child should be put to bed in a well-lighted and ventilated room and protected from drafts of cold air. The temperature of the room should be kept a little above the ordinary room temperature, say at 75 degrees, and water should be kept boiling in the room, enough to cause moisture to condense on the windows, as such warm moist air is more soothing to the inflamed lungs. The position of the patient should be frequently changed and he should not be allowed to lie continuously on the back, as often seems to be his natural inclination to do, on account of the hypostatic congestion which is thereby favored.

The diet must be nutritious and easily digested, such as milk, soft boiled eggs, chicken and other broths, gruels made of well-cooked cereals, etc., and must be given in quantities

sufficient to keep up the strength of the patient as much as possible even though the appetite does not seem to call for it.

The treatment should begin with a few small doses of calomel, followed by castor oil or a saline. Early in the attack when the pulse is full and the skin dry and hot, aconite and spirits of nitrous ether are valuable. Ice-bags to the chest are advised at this time by some. In strong children with high fever, acetphenetidin and other antipyretics may be given cautiously, but as a rule there is nothing better for fever than the warm bath. Lay the child into a tub of water at about blood heat, with as little handling as possible for a few minutes. Then wrap up lightly in a blanket for a few minutes before drying and returning to its bed. In the meantime give its bed a good airing. This may be repeated several times a day when the fever is high and the child is restless.

For the severe dyspnea nothing is better than ipecac given in expectorant doses regularly and in emetic doses once or twice a day, but not enough to produce exhaustion or to keep up a nausea between the times of vomiting. For pain and cough give codein, or the opiate and ipecac may be combined in the form of Dover's powder. In the stage of resolution ammonium muriate and hypophosphite, potassium and calcium iodid, hydriodic acid, syrup of the iodid of iron, cod liver oil, etc., are useful.

In the way of local applications, turpentine and mustard are both good in the early stages and iodine later, and throughout the whole course of the disease a thick cotton vest should be worn. Have a soft muslin form cut to fit under the arms, over the shoulders, well up around the neck, and down to the waist. Lay on it several thicknesses of cotton batting and stitch loosely to it. When this is put on the patient with the cotton next to the skin and pinned or sewed up in front and on the shoulders the chest is securely protected. Where it can be properly put on and frequently changed, a flaxseed poultice in place of the cotton may be better, but as it is usually done when attempted the cotton will prove more comfortable to the patient and fully as effective for good. A gown should be worn over this to protect the arms and lower parts of the body.

As a general thing, more is to be expected from good nursing and making the child comfortable and from nourishment to keep up the strength than from drugs.

The use of bacterins, which seem to be very useful in lobar pneumonia, does not seem to be so effective in bronchopneumonia on account of the mixed nature of the infection. If they be used at all it seems reasonable to expect much more good from the autogenous than from the stock bacterins and they alone should be used, although some have claimed good results from a mixed stock bacterin.

RESPONSIBILITY OF THE SURGEON* -

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The surgeon has a higher and greater responsibility than any other professional man. In his hands human life is at stake, and often-times hangs by a slender thread, with its continued existence dependent upon his knowledge, courage and skill. The lawyer has ample time to study and follow his precedents and rules of practice. The engineering profession must follow the unchanging laws of mathematics. Men in other professions spend years, perhaps, in the pursuit of a single work. Even the practicing physician usually follows a well-worn pathway, but the surgeon is always face to face with a crisis and a problem which he must solve for himself and at once, as human life may be either saved or sacrificed, and he must act with no formula to follow but knowledge, a cool head, steady hands and courage to do that which a highly trained brain may suggest.

Preparation.—It has been said "a surgeon is born, not made," but no greater fallacy was ever stated. No man can claim to be a great surgeon without a practical mastery of the almost infinite and intricate details of human anatomy. This can only be acquired by years of labor and study. All through life the weary hours away from active practice must be spent in pursuit of knowledge that is always ahead of him, and to keep in constant touch with the work of the masters in original research, whose lives are spent in research and development of the hidden truths of unknown remedy and appliances.

Knowledge.—A surgeon's greatness lies equally in his knowledge of when to use and when not to use the knife, and the knowledge comes only after years of labor and study; and not from heredity or accident of birth. Thousands of men are today without a limb, or some member of their body, that might have been saved if the requisite knowledge and courage had had control of the cases, and *often* our greatest triumphs lie in the operations we do not perform. What to do, when to do and how to do is the problem of each case, and in emergencies the problem presses for immediate solution, and in this moment we unconsciously reap the reward of the labor and study of years gone by and often make, for the first time, an application of long acquired knowledge, without a moment's preparation, through the courage of a well-stored and trained brain guiding the skilful hand, and perhaps a human life is saved by

the fruits of some hour long past spent in pursuit of the mystery of surgical remedies.

Duty.—Our duties are divers and manifold. First to ourselves and the ideals of our noble profession; but there are other duties demanded of us as surgeons of the great Frisco Railroad System. We must often stand halfway between our employer and the public, in the attitude of expert witnesses, to testify to the truth as to cases and operations handled by us. A duty is thus put upon us that reaches beyond the operating table and the hospital, affecting equally employer, patient and surgeon, a duty that often subjects us to bitter and unjust criticism. Surgery is an exact science, founded upon the eternal principles of truth, and our reports to the System and our testimony as to facts should be surreptitious, but exact and truthful in detail, result and consequent effect upon the patient. The Frisco Railroad System, with its tremendous power and influence upon the business and civilization of the country, wants the truth, the whole truth and nothing but the truth from us upon our cases and operations we perform, and it is needless for me to say it could not otherwise secure our professional services. But I desire to emphasize distinctly the necessity for accurate and exact reports to the System, made as near the time of service as possible. In emergency cases, that sometimes multiply upon us, we necessarily cannot be as exact as we should be, but a truthful and exact report always sustains itself, while one leisurely or carelessly drawn, made without details, often proves hurtful to our employers. The former will be accepted by a court or jury, while the latter will be ignored and thrown aside. A full, fair and truthful report covers our full duty to the railroad and to the patient, and this is all that can be demanded or obtained from a surgeon who holds and clings to the highest ideals of the profession.

Spirit of the management.—What a splendid organization we have! Aside from selfish interests, what a wonderful force we are for the alleviation of human suffering and the saving of human life! No private philanthropy could do what the Frisco Railroad System is doing for the unfortunate victims of inevitable railway disasters that in the very nature of things must occur in the tremendous volume of the transportation of the country. The spirit of the management that prompts our employment is great and humane enough to rise above and beyond any desire that our reports and testimony should be "colored" on the side of selfish interests, and this organization, with its splendidly equipped membership, is proof that it has distinguished surgeons who will unerringly follow the highest ideals of the profession in their professional employment.

* Read at the Fourteenth Annual Meeting Frisco System Medical Association, Springfield, Mo., May 24-25, 1915.

AN UNUSUAL CARDIOGRAM

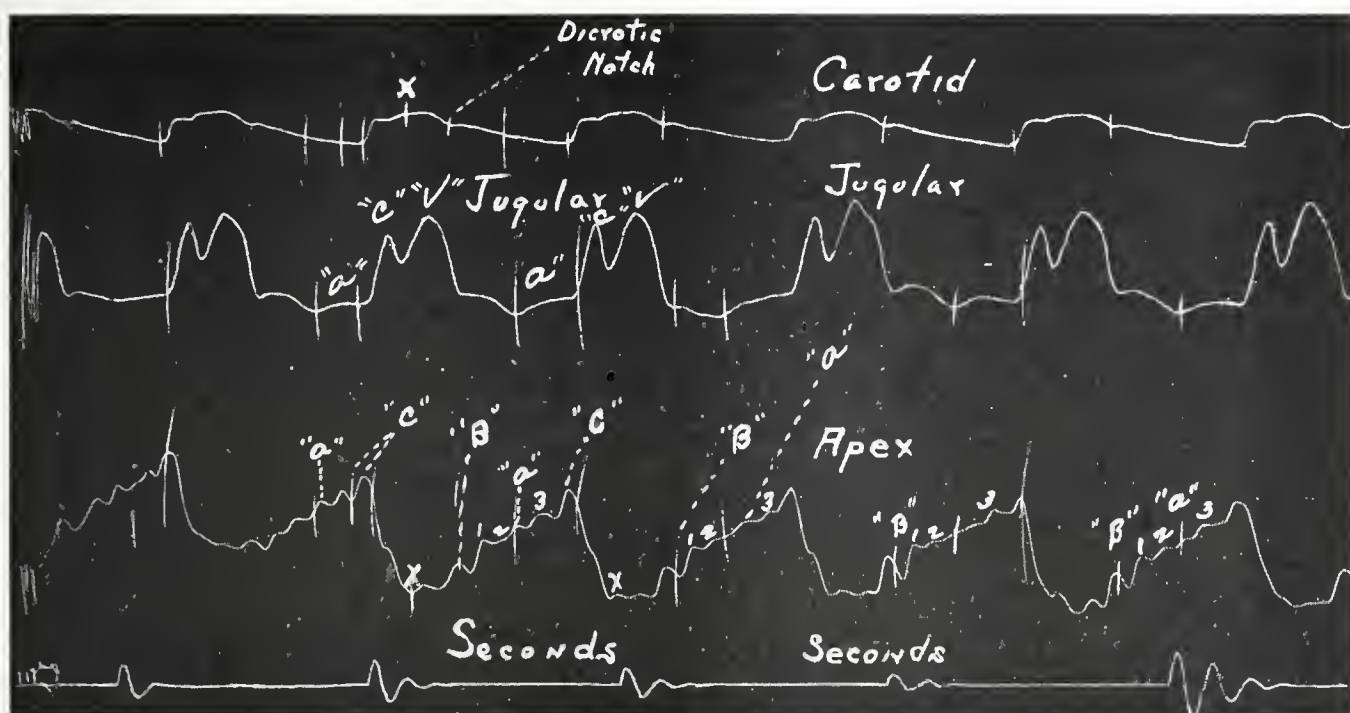
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The cardiogram graphically demonstrates the following:

1. Position of apex.
2. Area of apex beat.
3. Strength of apex impulse.
4. Time relation between auricular and ventricular beat.
5. Duration of ventricular systole.
6. Hypertrophy and dilatation of right ventricle.

the apex impulse the instrument often shows up the true condition.

In cases of marked dilatation and hypertrophy of the right auricle and ventricle the heart's surface in contact with the chest wall is often entirely made up of the right ventricle and auricle^{1,2}. When such is the case the cardiogram differs from the apex tracing of the impulse from left ventricle and is very characteristic. Mackenzie¹ states that when the apex beat is due to the right ventricle, "in place of the outward thrust during the systole, as in the apex beat due to the left ventricle, there is an indrawing of tissues." Keyt³ says the negative cardiogram is due to rhythmical locomotion of the heart in which the full impact of the heart is not centered over the explorer.



The position of the apex, the area of its impulse, and its strength of impact are better determined by the palpating fingers in direct physical examination. The time relation between the auricular and ventricular beat is more satisfactorily shown by a study of the venous pulse curve, while the duration of the ventricular systole is more readily measured in the curves of the carotid or radial sphygmogram. For the determination of the first five items, therefore, the cardiogram is of little clinical use.

It is in the diagnosis of the last named condition, hypertrophy and dilatation of the right heart that the cardiogram is most valuable. In cases that present thick and heavy auricle chest walls, or interposing lung tissue, percussion of the cardiac area is sometimes doubtful. In such cases where the cardiogram is able to pick up

Flint⁴ also noted that "When the ventricular walls are in contact with the anterior chest wall, the area over the body of the heart yields to atmospheric pressure and follows the retreating ventricular walls." In explaining this phenomenon Mackenzie¹ says, "When the ventricles expel their contents they must of necessity shrink. The yielding tissues in the neighborhood of the heart are dragged upon."

The accompanying polygram consists of simultaneous tracings of the carotid and jugular pulses, and the apex impulse. The impulses in neck and chest were picked up with ordinary Marey tambours recording on a revolving drum covered with smoked paper.

1. Mackenzie: Study of the Pulse, pp. 44, 39, 35.

2. Bamberger, quoted by von Jürgensen.⁵

3. Keyt: Sphygmography and Cardiography, 1887, p. 75.

4. Flint: Diseases of the Heart, 1870, p. 53.

The patient was an elderly man suffering from mitral stenosis and insufficiency. There were loud whistling diastolic and presystolic murmurs over the mitral area, with soft systolic bruit.

There was a very coarse presystolic thrill felt over the apex, which was diffused over an area of one and one half inches, the point of strongest impulse being about one inch displaced to the left and downward of normal. The thrill could be seen as well as felt.

Laying aside the diagnostic interpretation of the carotid and jugular tracings we will consider the trace of the apex impulse.

We find the cardiogram to be a true negative one. The systole of the ventricle begins at the highest point on the trace (wave "C") which coincides with the "C" wave of the jugular pulse. As the ventricle contracts there is a rapid fall of the trace to its lowest point "X," which coincides (approximately) with the highest point of the carotid trace at "X." The systole ends at point "B," which coincides with the dicrotic notch of carotid trace. The diastole begins at "B" (at the closing of the aortic valves) and ends at "A" (the beginning of the auricular contraction). These coincidences of waves constitute the negative cardiogram of right ventricular hypertrophy and dilatation.

This apex tracing is interesting from another point of view. There seems to be a definite relation between the palpable presystolic thrill and the serration or waves "1," "2" and "3" during the diastolic phase of the trace. These undulations in the trace occur at the time the thrill is palpable to the fingers and when the presystolic murmur is heard.

Von Jürgensen⁵ says, "At times we do not feel the thrill, although we hear a rather loud murmur. This may be due to the fact that the force which gives rise to both phenomena is sufficient to effect the more easily excitable acoustic nerve, but not the sensory nerves of the skin. A thrill may occur without any audible murmur, but I believe that such a thrill arises through an irregular contraction of the individual muscle fibers of the heart." * * * "When vibrations which are perceptible to the ear are also discernible on palpation, we must conclude, in general, either that the force which has produced them has increased, or else that the resistances which were opposed to their transmission have decreased."

Allbutt⁶ says, "Sometimes its sound vibrations are attended with others less numerous, not rapid enough to cause a sound but perceptible to touch as a thrill."

Sansom⁷ takes as cardiographic evidence of mitral stenosis, tracings which show: "(b) An increase in breadth of the auricular eminence,

the summit of which is seen to be broken by undulations, a condition felt by the finger as thrill.

"(c) Repeated elevations denoting rise and fall of pressure during ventricular diastole, not necessarily indicating any muscular contractions of the auricle, but probably expressing graphically the interruptions of the flow of blood through the diseased valve structures which are audible as a rolling or bubbling murmur.

"(d) Fine serrations in the diastolic and presystolic periods audible as harsh murmur, and due to the causes already considered."

Whether the thrill in this case was due to "an irregular contraction of the individual muscle fibers of the heart," or "to interruptions of the flow of blood through the diseased valve structures" cannot be determined by the tracing.

THE RELATION OF THE RECTUM TO THE FEMALE PELVIC ORGANS*

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ST. LOUIS

The most hopeful outlook for the future in the practice of medicine is the increasing number of our fellows who are waking up to the consciousness of assuming responsibility. While it is true that there are a few who are willing to sell their birthright for a "mess of pottage," the fact remains that an ever increasing number of physicians are possessed of a "scientific conscience."

I take it that a physician thus endowed is a man big enough to say "I do not know" when he does not, and who is willing at all times to put himself in his brother's place. If he realizes that he is finite he will either take steps to perfect his knowledge, or he will refer his patient to some one who does know. He will never direct any medicine or perform any surgical operation unless he would be willing to subject a member of his family or himself to the same treatment under like circumstances.

Every patient who consults us has a perfect right to demand the best that modern medicine has to offer. While we should look upon him as an individual with a distinct personality as well as a "case," he should be given to understand that he comes to consult and not to counsel.

Every patient should be examined throughout, whatever local affection may have brought him to the doctor. It is not enough to collect all the clinical data in the given case; they must be classified, the important ones recognized and correlated. To do this properly requires a broad and thorough general medical education.

5. Theodore von Jürgensen: Diseases of the Heart, Nothnagel's Encyclopedia of Prac. Med., Am. Ed., 1908, pp. 362, 353, 337.

6. Allbutt: Allbutt's System, 1901, pp. 929, 1022.

7. Sansom, in Allbutt's System.⁶

* Read before the Section on Obstetrics and Gynecology of the St. Louis Medical Society, September 21, 1915.

A good general study of the case will often clear up the diagnosis and permit effectual treatment when otherwise the specialist would have worked in vain. Unless a specialist is able to examine his patient with an open mind he is likely to find just what he had expected and alas too often meets with defeat because he has overlooked the most important pathological factor.

The anatomical relation existing between the female pelvic organs and the lower bowel is well known to us all. Considered as a mechanical factor, any abnormality either extrinsic or intrinsic existing in the rectum has a marked influence on the adjacent organs. As an avenue for the examination of the female pelvic organs the rectum has not been fully appreciated. Malpositions and tumors of various kinds can frequently be definitely outlined by a proper bimanual examination. I have known an impacted sigmoid or a diverticulum to be mistaken for a fibroid or ovarian cyst. It is surprising how many retroversions disappear after an enema is properly administered.

The nerve supply of the pelvic organs is practically derived from the same common source, thus accounting for the various interesting reflexes so annoying to the patient and physician. The dentist and aurist have long since appreciated the relation existing between the teeth and the ear, while urologists, gynecologists and proctologists have been very slow in recognizing their next door neighbors. This state of affairs should not exist and I trust the time is not far distant when you will at least *visit* the dark continent.

The specific and so-called constitutional diseases are of mutual interest. In the early manifestations of these diseases the bladder, uterus or rectum may be involved at the same time or any one may antedate the other. We all know the need of an early, definite diagnosis, and cannot afford to ignore any avenue that promises to furnish footprints of the intruder.

This is particularly true in syphilis. The secondary lesions can frequently be found in the rectum before any patches are visible elsewhere. A Wassermann may be negative in this stage but your patient will respond to proper medication.

The local infection involving the vagina, rectum and perineum may have a common origin. Usually, in America at least, the venereal organism sets up housekeeping in the vagina and it is only after the progeny becomes too numerous that they seek a new and less inviting environment.

The streptococcus fecalis which is responsible for most cases of pruritis and vulvitis locates its base of operations in the vicinity of the anorectal opening. In order to appreciate this fact

fully, it is essential to establish in one's mind the fact that most lesions that produce these conditions occur at the anoproctodeal junction—that is to say the meeting place of the proctodeum with the blind end of the gut. This junction is not only variable as to its situation, but its outline is uneven and pectiniform, and forms the processes which are known as the crypts and columns of Morgagni.

In the normal act of defecation the lower end of the inside of the rectum is everted. The habit of cleansing the parts by infected toilet articles before said everted bowel returns is the primary cause of much rectal pathology. The pathological process is as follows: Owing to some lesion at the anoproctodeal junction the mucous membrane is weakened in its protective power by the microorganisms of various sorts which abound in this region. The resistance of the patient is caught at a disadvantage and the submucous pockets serve admirably as culture tubes; thus they become the starting point of whatever follows. The tissues surrounding the rectum are of low vitality and are supplied by a complicated system of lymphatics thereby providing a favorable soil and ample means for extensive infection.

An early diagnosis of carcinoma is especially desired in this part of the body as it is only when the malignancy can be outlined and definitely located that we are justified in advising its removal.

The intestinal canal must be considered as performing a two-fold function. It is both the commissary and sewerage department. Alimentation and elimination are intimately associated with every function of the body. The test meal and clinical and bacteriological examination of the contents of the bowels will often prove helpful. The intelligent use and proper interpretation of the fluoroscopic findings should not be overlooked when the diagnosis is in doubt.

Proctoclysis and rectal feeding have a definite place in the armamentarium of the internist and surgeon. Rectal medication is seldom justifiable and the administration of narcotics of any form is only mentioned to be condemned. The rectum is only second to the vagina in furnishing a receptacle for nostrums prescribed by charlatans and so-called doctors who are too busy to make a diagnosis.

The number of cures for constipation and hemorrhoids are at least equal to the panaceas administered for the "change of life." While you may boast of your whirling spray and medicated vaginal douches, I know of nothing either liquid or solid that has not been used by some one to cure some despised disease of the rectum.

In conclusion allow me to insist that you visit the dark continent occasionally. You will find much of interest and profit.

204 Humboldt Building.

THE JOURNAL

OF THE

Missouri State Medical Association

Address all Communications to 3517 Pine Street, St. Louis, Mo.

MAY, 1916

EDITORIALS

Just as we are going to press word has been received that Mrs. Charles R. Woodson, wife of our President, died April 24, 1916, from pneumonia.

EXCELSIOR SPRINGS MEETING

Arrangements for the 59th annual session to be held at Excelsior Springs, May 8 to 10, are completed and preparations have been made

The Clay County Medical Society extends a warm invitation to all members to attend this session. Special arrangements are being made for the entertainment of the ladies. For them there will be an automobile ride over the city, Monday afternoon, May 8, at 3:30 p. m., starting from the Snapp Hotel, and on Tuesday afternoon, May 9, Afternoon Tea at Snapp Hotel from 3 to 5 p. m. Committees have been appointed for every detail and a good time is anticipated for all the ladies. Mr. Emmke of the Elms Hotel is planning for several entertainments.

The railroad rate is two cents per mile so there will be no occasion for obtaining certificates when purchasing tickets. For members in the Eastern half of the state the Wabash Railroad is the direct line, and from Kansas City the Wabash and the Chicago, Milwaukee and St. Paul Railroads pass through Excelsior Springs. The interurban railroad between



ELMS HOTEL

for a large attendance. The headquarters will be at the Elms Hotel and all meetings will be held in the ball room of this splendid hostelry.

The House of Delegates will meet in the ballroom Monday, May 8, and continue in session all day. The Judicial Council will meet in the small dining room at 12 o'clock noon, May 8. The scientific sessions will be held in the ball room beginning Tuesday morning, May 9. The secretaries will hold their meeting on Monday afternoon at 1:30 in the Snapp Hotel. On Monday evening at 8 o'clock the secretaries' banquet will be given in the Snapp Hotel. The Program Committee will recommend that a memorial meeting be held on Tuesday evening, May 9, at 8 p. m., in commemoration of the deceased members and especially of two former presidents who have died since our last meeting. The deceased ex-presidents are Drs. Frank J. Lutz and Walter B. Dorsett.

Health lectures by our members will be given in the churches on Sunday, May 7. The exhibits will be installed on the veranda of the Elms Hotel.

Kansas City and Excelsior Springs is a very popular route.

Don't forget to bring your pocket card. It facilitates registration. See that your dues are paid in your county society. No member can take part in any of the sessions unless this important obligation has been discharged.

HOTELS AND BATHS

The Elms Hotel, headquarters: Room without bath for one person \$4.00 to \$4.50 per day. For two persons \$7.50 to \$8.50 per day. Room with private bath one person \$4.50 to \$6.00 per day. For two persons \$8.50 to \$10.00 per day. All rooms have lavatory and toilet.

Snapp Hotel: Rates \$2.50 to \$4.00 per day.

Royal Hotel: Rates \$2.00 to \$3.00 per day.

In addition to these hotels there are a number of good hotels with rooms at \$1 per day. Members may address Dr. W. S. Wallace, Excelsior Springs, Chairman Committee on Arrangements, for reservations.

All hotels are on the American plan.

Fifty smaller hotels and rooming houses at prices ranging from \$1 per day up.

NO ADVANCE IN HOTEL RATES

On the printed pamphlets sent out by hotels in response to inquiries for rates by our members the printed rates have been scratched and a slight increase marked. This is not to be taken as an advance of rates for our meeting. The managers of the hotels have assured us that an increase in rates was made necessary some time ago but new pamphlets have not as yet been printed, hence they scratched the printed figures and inserted the present rates.

NOT GUILTY

Four suits against members of the Association for alleged malpractice were concluded in St. Louis recently, all resulting in favor of the physicians. The Defense Committee assisted each of the members in the preparation of the case. The successful outcome of these cases emphasizes anew the protection afforded a member in good standing when he is assailed by disgruntled and dissatisfied patients. Numerous reasons are given by these persons to justify their attack on a physician but they usually fall into one of two classes, (1) the avaricious who try to escape payment of their account, and (2) the mercenary who try to mulct the doctor for a few dollars. The "snitch" lawyer is of course a necessary adjunct in many cases and he usually appears at the proper moment; occasionally a lawyer in good standing prosecutes a malpractice suit against a physician but usually without success. The rarity of evidence of neglect, wilful or unintentional, on the part of the physician when treating a case and the uniform success of defending our members have impressed reputable attorneys so profoundly that the plaintiff nowadays must present very strong evidence of having a just cause before a lawyer of standing will take his case.

Since the adoption of our defense provision our members have discovered the practical value of organized medicine in protecting their material and professional interests and the work of our Defense Committee has been instrumental in arousing a strong spirit of fraternalism and a high appreciation of the duties and obligations each member owes his fellow practitioner. The Defense Committee does not limit its calls for expert testimony in behalf of the sued physician to that doctor's friends but calls the one who is most capable of giving forceful testimony so that the attorney for the defense can present the case to the court and the jury in the most effective manner.

One of the four suits mentioned above charged that deformity had resulted through the neglect of the physician in treating a fractured forearm. The jury returned a verdict for the physician. One suit was instituted by the hus-

band of a woman who had been laparotomized and a sponge left in the abdomen. The husband charged neglect by the surgeon in consequence of which he had been deprived of the companionship of his wife. When the case was called the attorney for the husband failed to appear in court and no one else appearing in the husband's interest, the court dismissed the case. An operation on the rectum was the basis of another of the cases but the court dismissed the suit after the plaintiff's evidence had been submitted, thus proving that the evidence did not support the charges. The fourth case was a fractured femur. Our attorney entered a demurrer to the evidence claiming that the plaintiff had not established his right to sue, which the court sustained and dismissed the case.

CLINICAL FACILITIES OF KANSAS CITY OFFERED TO VISITING PHYSICIANS

The Kansas City Clinical Association is a recently organized body of reputable practitioners who have charge of various hospitals and clinics in Kansas City, and desire to extend the courtesies of the institutions to visiting physicians of repute from surrounding states.

Kansas City has a wealth of clinical material, but no serious effort has been made until now to classify the cases so that visiting physicians could observe operations and study the conditions in which they are specially interested.

The Clinical Association has been organized for the purpose of enabling visiting physicians to learn at a common source what hospitals, clinics and dispensaries are open to them and the kind of cases under treatment from day to day.

Several new hospitals have recently been constructed in Kansas City, and these, with the splendidly equipped new General Hospital, offer large opportunities for visiting physicians to profit by the great variety of cases.

NEW AND NONOFFICIAL REMEDIES, 1916

The profession as a whole does not yet fully appreciate the character, the scope and above all the practical value of this book to the practicing physician. Perhaps it is because its size is so unpretentious, the price asked for it so small and the contents so conservative and unsensational in character that a hasty and superficial examination does not reveal its true worth.

New and Nonofficial Remedies contains descriptions of the newer remedies that are worth the physician's consideration. Being issued by the Council on Pharmacy and Chemistry, which is composed of chemists, pharmacists, pharmacologists and clinicians of the highest standing, it is authoritative; in fact, it is recognized as the standard authority on the

newer remedies. When besieged by too persistent detail men, many up-to-date physicians fortify themselves behind New and Nonofficial Remedies, taking the stand that they cannot afford to waste time on any preparation which has not gained admittance to its pages.

New and Nonofficial Remedies furnishes the physician who has learned how to use it with the answers to a great many perplexing questions that arise in the course of daily practice—and in many instances it is the only book which does furnish this information. What is the distinction between the action of acetylsalicylic acid (aspirin) and that of the other salicylates? What is the comparative toxicity of the various cocain substitutes? What manufacturers furnish Bulgarian bacillus preparations—medicinal foods—organ extracts? What is the iodine strength of the nonofficial organic compounds of iodine compared with the official iodids? What is the standing of pneumococcus vaccine—of the Schick test—of radium therapy? Look in N. N. R.; it is all there.

In owning and consulting N. N. R. you are not merely forwarding the worthy cause of therapeutic reform; you are but doing justice to yourselves and your patients. In fact you cannot afford to do without it.

Copies will be sent by the American Medical Association, 535 N. Dearborn Street, Chicago, postpaid for one dollar.

OBITUARY

CHARLES D. STEVENS, M.D.

Dr. Charles D. Stevens, a graduate of Washington University Medical School, 1878, died from hardening of the arteries, at his home in St. Louis, April 9, 1916, aged 64 years. Dr. Stevens was the son of a pioneer St. Louis physician, Dr. Charles W. Stevens, who practiced in St. Louis before the Civil War. He was a member of the St. Louis Medical Society and the Missouri State Medical Association.

WILLIAM NORMAN DIAMOND, M.D.

Dr. W. N. Diamond, born in Livingston County, Mich., March 12, 1865, a graduate of the Detroit College of Medicine, 1891, died from pulmonary tuberculosis, Dec. 21, 1915. He practiced in Lansing, Mich., for a number of years, then moved South in search of health for himself and wife. He practiced in Newkirk, Okla., and at Ridge Prairie, Mo., before locating in Ozark, Mo., where he died. He was an active member of Christian County Medical Society and the Missouri State Medical Association.

WILLIAM WALLACE MOSBY, JR., M.D.

Dr. W. W. Mosby, Jr., a graduate of the Missouri Medical College, St. Louis, 1882, died at his home in Richmond, Mo., April 7, 1916, from neuritis. Dr. Mosby began the practice of medicine in Richmond soon after his graduation and was meeting with marked success when his career was cut short by the disease which resulted in his death. For probably twenty years he was totally blind but he bore his suffering with patient endurance until the end. He was widely known and the announcement that he has passed away will be received with keen regret by many friends in Ray county.

EDGAR MOORE SENSENEY, M.D.

Dr. Edgar M. Senseney, a graduate of the St. Louis Medical College, 1887, died at his home in St. Louis, April 7, 1916, aged 61 years.

Dr. Senseney had practiced medicine in St. Louis since 1887. He was born in Winchester, Va., 1855. His preliminary education was obtained at Central College, Fayette, Mo. He took a postgraduate course at the University of Virginia. In 1888 he was appointed lecturer of physiology in the St. Louis Medical College and professor of therapeutics in the same institution in 1890. He was a member of the St. Louis Medical Society, The Missouri State Medical Association and the St. Louis Academy of Science. It is said that Dr. Senseney was the first physician in St. Louis to use an automobile in his practice.

NEWS NOTES

DR. W. L. BROSIUS, of Gallatin, spent several weeks in the clinics and hospitals of the East during April.

DR. V. P. BLAIR, of St. Louis, was a guest of the Montgomery County Medical Society, April 11, and spoke on Cancer of the Mouth.

DR. F. REDER, of St. Louis, delivered an address on Intestinal Anastomosis before the St. Clair County (Illinois) Medical Association at Belleville, April 6.

DR. T. T. O'DELL, of Marionville, formerly of Ellington, has purchased the Marionville Hospital. It has a capacity of eight beds and is well equipped. Dr. J. W. Andrews is associated with Dr. O'Dell.

A BETTER Baby's Conference was conducted at Sedalia, April 6 to 8. The members of the Pettis County Medical Society scored the percentages using the score card of the American Medical Association.

DR. A. R. McCOMAS, of Sturgeon, has been appointed chairman of the executive committee of the Judicial Council, to fill the vacancy caused by the death of Dr. F. J. Lutz.

DR. C. W. RUSSELL, of Springfield, president of the Greene County Medical Society, spent several weeks in New Orleans attending the clinics at Tulane University Medical School.

DR. FRED GRIFFIN, of Mexico, after spending several weeks in the clinics of Tulane University Medical School at New Orleans, is taking special work in the Washington University Medical School, St. Louis.

DR. A. H. HAMEL, of St. Louis, has been appointed councilor of the 20th district to fill the vacancy caused by the death of Dr. F. J. Lutz. The district comprises the city of St. Louis and the County of Franklin.

DR. M. P. RAVENEL, of Columbia, and Dr. F. H. Matthews, of Liberty, spoke at a public meeting in the high school auditorium at Lexington, March 13. The meeting was held under the auspices of the Lafayette County Medical Society and the Women's Club.

THE eleventh annual meeting of the Medical Association of the Southwest will be held in Fort Smith, Arkansas, October 2, 3, 4. Invited guests are Dr. John Ridlon of Chicago, and Dr. Fenton B. Turck of New York. Dr. Joe Becton of Greenville, Texas, is president of the Association and Dr. F. H. Clark, El Reno, Oklahoma, is secretary.

THE Woman's Medical College of Pennsylvania has established a fellowship amounting to \$1,000 to be awarded annually to any medical woman of special ability who, following the undergraduate course, has completed at least one year of hospital service, including work in maternity wards, and one year of further practice. The amount is to cover twelve months of special work as Fellow in Obstetrics, with the condition that the holder of the fellowship shall thereafter continue the practice of obstetrics.

DURING March the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Non-official Remedies:

Radium Limited, U. S. A.: Saubermann Radium Emanation Activator, 5,000 Mache units, 10,000 Mache units, 20,000 Mache units, 50,000 Mache units.

Standard Oil Company of Indiana: Stanolind Liquid Paraffin.

Knoll & Co.: Styraocol Tablets, 5 gr. Tannalbin Tablets, 5 gr.

AUGUST STEINLAGE, of St. Louis, who made application to take the examination for the license to practice medicine, presented a false diploma to the State Board of Health at the meeting in St. Louis, March 22, and was arrested on the charge of making a false affidavit. The diploma which he presented purported to show that Steinlage was a graduate of the Marquette University of Milwaukee, Wis. The authorities of the institution declared no such diploma had been issued by them. Steinlage was found guilty and fined \$500.

THE St. Louis University Medical School, Marion-Sims, and the Beaumont Medical College Alumni, held their annual reunion and banquet Tuesday evening, March 21, at Lippe's Cafe in St. Louis. The various classes were assigned tables and a special effort was made to make each table a little reunion of itself. The plan was very successful. Some of the classes became enthusiastic in their efforts to out-do their sister classes, '97, '00 and '11 being specially noteworthy in this direction. The evening was enlivened by various forms of entertain-

The revised program for the forty-third annual meeting of the National Conference of Charities and Correction, Indianapolis, May 10-17, has been issued. It begins with an address by Ernest P. Bicknell of Washington, D. C., on measures adopted by the Red Cross and other agencies in warring countries and contains a dozen section meetings on health questions. Dr. J. N. Hurty, of the Indiana State Board of Health, is chairman of the division on health and speakers are drawn from all parts of the country. It is likely there will be a special social function for medical men in attendance upon the conference. The organization brings together about 2,500 men and women engaged in practical social work, voluntary and public, in the United States and Canada.

THE H. K. Mulford Company announce the establishment of a department of sanitation and epidemiology which will be under the direction of Dr. Thos. W. Jackson, formerly lecturer upon tropical diseases at the Jefferson Medical College. The new department does not contemplate entering into competition with the constituted public health authorities of any community; on the contrary, its purpose is to aid such authorities. This work will be essentially one of service and education. Correspondence is invited, especially from authorities in small towns and municipalities where limited appropriations curtail investigative work. Accompanying the announcement is a copy of the *Mulford Digest*, containing information on

serum therapy and related subjects. The book contains beautiful views of the Mulford laboratories, farms, and buildings, reproduced in colors by the Lumiere process. An interesting feature is the description of drug plants successfully grown on the farms.

THE Samuel D. Gross Prize of Fifteen Hundred Dollars.—The conditions annexed by the testator are that the prize "shall be awarded every five years to the writer of the best original essay, not exceeding one hundred and fifty printed pages, octavo, in length, illustrative of some subject in Surgical Pathology or Surgical Practice, founded upon original investigations, the candidates for the prize to be American citizens." It is expressly stipulated that the competitor who receives the prize, shall publish his essay in book form, and that he shall deposit one copy of the work in the Samuel D. Gross Library of the Philadelphia Academy of Surgery, and that on the title page, it shall be stated that to the essay was awarded the Samuel D. Gross Prize of the Philadelphia Academy of Surgery. The essays, which must be written by a single author in the English language, should be sent to the "Trustees of the Samuel D. Gross Prize of the Philadelphia Academy of Surgery, care of the College of Physicians, 19 S. 22nd St., Philadelphia," on or before January 1, 1920. Each essay must be typewritten, distinguished by a motto, and accompanied by a sealed envelope bearing the same motto, containing the name and address of the writer. No envelope will be opened except that which accompanies the successful essay. The Committee will return the unsuccessful essays if reclaimed by their respective writers, or their agents, within one year. The Committee reserves the right to make no award if the essays submitted are not considered worthy of the prize.

THE Christian Church Hospital of Kansas City was dedicated April 9. The building, equipment and furnishings cost approximately \$330,000. There is an endowment fund approximating \$150,000. The medical staff follows:

SURGICAL DEPARTMENT

Attending Surgeons—Dr. Jabez N. Jackson, Dr. John F. Binnie.

Associate Attending Surgeons—Dr. Howard Hill, Dr. Walter S. Sutton.

Consulting Surgeon—Dr. W. J. Frick.

MEDICAL DEPARTMENT

Attending Physician—Dr. William W. Duke.

Associate Attending Physicians—Dr. C. C. Conover, Dr. Carl Bryant, Dr. L. S. Milne.

Consulting Physicians—Dr. R. T. Sloan, Dr. P. T. Bohan, Dr. John L. Robinson.

OBSTETRICAL DEPARTMENT

Attending Physicians—Dr. C. A. Ritter, Dr. George C. Mosher.

DEPARTMENT OF PEDIATRICS

Attending Physicians—Dr. E. H. Schorer, Dr. Frank Neff.

Consulting Physician—Dr. C. S. Merriman.

DEPARTMENT OF ORTHOPEDICS

Attending Surgeon—Dr. Frank D. Dickson.

DEPARTMENT OF UROLOGY

Attending Surgeons—Dr. James P. Henderson, Dr. Francis McCallum.

Consulting Surgeon—Dr. Ernest G. Mark.

DEPARTMENT OF OPHTHALMOLOGY

Attending Physicians—Dr. A. W. McAlester, Dr. W. H. Schutz.

DEPARTMENT OF OTO-LARYNGOLOGY

Attending Physicians—Dr. Herbert G. Tureman, Dr. J. M. Patterson, Dr. D. L. Shumate.

DEPARTMENT OF DERMATOLOGY

Attending Physician—Dr. Richard L. Sutton.

Assistant Attending Physician—Dr. C. C. Dennie.

DEPARTMENT OF NEUROLOGY

Consulting Physician—Dr. A. L. Skoog.

DEPARTMENT OF PATHOLOGY

Attending Pathologist—Dr. Ralph H. Major.

DEPARTMENT OF ROENTGENOLOGY

Consulting Roentgenologist—Dr. E. H. Skinner.

J. R. Coddington—Superintendent.

Mrs. Estelle C. Koch—Directress of Nurses.

MEMBERSHIP CHANGES, APRIL

NEW MEMBERS

Daniel A. Chapman, Joplin.

J. M. Coats. Cabool.

Chas. C. Dennie, Kansas City.

Harold A. Elkins, St. Louis.

Julius Frischer, Kansas City.

Ray J. Gay, New Hartford.

H. E. Hunt, Keota.

Loren L. Gray, Powersville.

James R. Hunt, Macon.

Chas. A. Kelly, St. Louis.

Terry E. Lilly, Kansas City.

Jos. W. Mays, St. Joseph.

Fred H. Morley, Higginsville.

Elbert L. Spence, Fulton.

Jos. Edgar Stewart, St. Louis.

Herbert F. Van Orden, Kansas City.

E. P. Wheeler, Odessa.

CHANGE OF ADDRESSES

Hubert O. Bell, St. Louis to York, Neb.
 J. C. Culp, Thayer to Springfield, Colo.
 C. H. Dixon, Holliday to Moberly.
 W. D. Dixon, Tuseumbia to Ulman.
 A. B. Freeman, Sulphur Springs, Ark., to Eldorado Springs, Mo.
 Rolla Henry, 1208 Dillon St. to 2316 Russell Ave., St. Louis.
 E. E. Higdon, Allenville, to Olney, Colo.
 Jos. L. Hogan, Forbes to Oregon.
 Oscar L. Howard, St. Louis to Lake Charles, La.
 Leo J. Kilian, Blair, Neb. to Anglum, Mo.
 Louis B. Knecht, St. Louis to Poplar Bluff
 Jos. S. Leslie, Jefferson City to Vona, Colo.
 F. A. Lindsay, St. Joseph to Hoisington, Kan.
 J. D. Musiek, Calhoun to Rosalia, Kan.
 Wilhelm Nobbe, St. Louis to Germany.
 O. W. Reinders, St. Louis to New York City.
 A. M. Townsend, Walnut Grove to Kenoma.
 C. L. Woolsey, Braymer to Chillicothe.

RESIGNED

Hubert O. Bell, St. Louis.
 B. L. Ellis, Poplar Bluff.
 U. P. Haw, Benton.
 W. G. Hendrix, New London.
 Oscar L. Howard, St. Louis.
 Wilhelm Nobbe, St. Louis.

DROPPED

E. H. Bryson, Grand Junction, Colo.
 Jos. J. Carter, Los Angeles, Calif.
 J. C. Culp, Thayer.
 Frank R. DeHoney, Kansas City.
 Franeis W. Drew, St. Louis.
 J. E. Hammer, Hardtner, Kan.
 Leo Don Harmon, Table Rock, Neb.
 T. V. Miller, Sikeston.
 F. L. Ogilvie, Blodgett.
 Harvey S. Reese, Kansas City.
 John C. Roberts, Stamps, Ark.
 W. G. Safford, Kansas City.
 Chauneey M. Stokes, Bath, Ill.
 Douglas Wyatt, Cookville.
 C. O. West, New Cambria.
 Flavius P. Wyatt, New Florence.

TRANSFERRED

Roy Wilson, Enterprise, Ore.

DECEASED

Edgar M. Senseney, St. Louis.
 Chas. D. Stevens, St. Louis.

MISCELLANY

MEDICAL CORPS OF THE NAVY

The next examination for admission into the Medical Corps of the Navy will be held on or about June 16, 1916, at Washington, D. C., Boston, New York, Philadelphia, Norfolk, Va., Charleston, S. C., Great Lakes (Chicago), Mare Island, Calif., and Puget Sound, Wash.

The applicant must be a citizen of the United States, between 21 and 30 years of age, a graduate of a reputable school of medicine, and must apply for permission to appear before a board of medical examiners. The application must be in the handwriting of the applicant and should reach the Bureau of Medicine and Surgery not later than June 5, 1916.

The pay of an assistant surgeon is \$2,000 per year on shore duty, and \$2,200 at sea. At the expiration of the three years mentioned in the preceding paragraph, if successful in passing the examination for the rank of passed assistant surgeon, pay on shore is \$2,400; at sea, \$2,640. After a total of five years in the service, pay on shore is \$2,640; at sea, \$2,904. Both at sea and on shore, quarters or their equivalent are provided; if these are not available on shore duty, an ample, appropriate allowance is provided for rental, heat and light of same. An allowance of 8 cents a mile is also provided when traveling on orders.

Full information with regard to physical and professional examinations, with instructions how to submit formal application, may be obtained by addressing the Surgeon-General of the Navy, Navy Department, Washington, D. C.

A COSTLY OBJECT LESSON

The effect of the suicide of Dr. Theodore B. Sachs, following his resignation from the presidency of the Board of Trustees of the Chicago Municipal Tuberculosis Sanatorium, has not stopped with the subsequent city election, which it profoundly influenced, but is being felt throughout the country. It is a costly object lesson of the baneful results of the introduction of spoils politics into the management of eleemosynary institutions. Dr. Sachs, who was a Russian Jew whose early life had been spent amid distressing surroundings, had the highest ideals, which he carried into his official work. His devotion to duty was beautiful to behold. But when he found that he was being hampered by spoilsmen, whose sole conception of the sanatorium was a place for rewarding political henchmen, and that the appointing power was indifferent to the conditions, if not conniving at them, his sensitive nature could not bear the shock. He resigned and killed himself, leaving a pathetic appeal to the people of Chicago to rescue the institution from its danger. It is a matter of sorrow that he did not live to conduct the fight for reform, but his suicide for such a cause stirred Chicago more than anything else could have stirred it, and a voluntary organization of "vigilantes" will watch the eleemosynary institutions hereafter.

The evil is not confined to Chicago or Illinois. It is prevalent in many states and cities. It will be prevalent in all, unless the public is vigilant. The superintendent of the State Hospital for the Insane at St. Joseph has been forced to retire because he would not discharge competent employees to make room for political workers. The Missouri State Penitentiary is conducted by a political machine. The blighting hand not merely of party but of faction rests on other public institutions of Missouri. It is a sorry thing that the citizens should submit to such conditions. Perhaps the sad case of Dr. Sachs may turn the minds of Missourians to the remedying of conditions here. Costly as the object lesson is, it may eventually be worth the cost.—St. Louis *Globe-Democrat*.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL, 1916

(UNDER THIS HEAD WE LIST THE SOCIETIES WHICH
HAVE PAID THE STATE ASSESSMENT FOR
ALL THEIR MEMBERS)

Webster County Medical Society, Dec. 15, 1915.
Benton County Medical Society, Dec. 16, 1915.
Cape Girardeau County Medical Society, Dec. 19, 1915.
Schuyler County Medical Society, Dec. 22, 1915.
Atchison County Medical Society, Dec. 27, 1915.
Clark County Medical Society, Jan. 1, 1916.
Madison County Medical Society, Jan. 10, 1916.
Clinton County Medical Society, Jan. 11, 1916.
Sullivan County Medical Society, Jan. 17, 1916.
Phelps County Medical Society, Jan. 17, 1916.
Camden County Medical Society, Jan. 18, 1916.
Dent County Medical Society, Jan. 31, 1916.
Barton County Medical Society, Feb. 3, 1916.
Moniteau County Medical Society, Feb. 7, 1916.
Henry County Medical Society, Feb. 21, 1916.
Putnam County Medical Society, Feb. 24, 1916.
Pulaski County Medical Society, Feb. 28, 1916.
Vernon County Medical Society, Mar. 3, 1916.
Ste. Genevieve County Medical Society, Mar. 15, 1916.
Cooper County Medical Society, Mar. 30, 1916.
Montgomery County Medical Society, April 4, 1916.
Ralls County Medical Society, April 6, 1916.
Livingston County Medical Society, April 12, 1916.
Macon County Medical Society, April 14, 1916.
DeKalb County Medical Society, April 17, 1916.

MISSOURI STATE MEDICAL ASSOCIATION

Fifty-ninth annual meeting Missouri State Medical Association, Excelsior Springs, May 8, 9 and 10.

PROGRAM

House of Delegates

FIRST DAY—MONDAY, MAY 8, 1916

BALL ROOM, ELMS HOTEL

House of Delegates called to order at 9:00 a. m.
Roll call.
Reading of minutes of previous meeting.
Reading of president's message and recommendations.
Appointment of Committee on Nominations.
Report of Committee on Arrangements.
Report of the Judicial Council.
Report of Secretary.
Report of Treasurer.
Report of Committee on Scientific Work.
Report of Committee on Health and Public Instruction.
Report of Defense Committee.
Report of Publication Committee.
Report of Committee on Medical Education.
Report of Committee on Constitution and By-Laws.
Report of Committee on Cancer.
Report of Committee on Blindness.
Report of Committee on Vaccination.
Report of Committee on Expert Testimony.
Report of Committee on Necrology.

RECESS TILL 3 P. M.

Report of Judicial Council.
Reports of Reference Committees.
Reading of Resolutions, Memorials, etc.
Report of Committee on Nominations.
Election of President.
Selection of place of next meeting.
Miscellaneous business.

JUDICIAL COUNCIL

Judicial Council meets at 12 noon in the small dining room of Elms Hotel. Luncheon at the same hour.

1st District.....C. L. Evans, Oregon
2d District.....O. C. Gebhart, St. Joseph
3d District.....G. W. Whiteley, Albany
4th District.....J. B. Wright, Trenton
5th District.....J. R. Bridges, Kahoka
6th District.....A. C. Crank, Canton
7th District.....J. D. Smith, Shelbina
8th District.....L. W. Cape, Maplewood
9th District.....A. R. McComas, Sturgeon
10th District.....C. H. Dixon, Holliday
11th District.....G. W. Hawkins, Salisbury
12th District.....Spence Redman, Platte City
13th District.....F. E. Murphy, Kansas City
14th District.....C. T. Ryland, Lexington
15th District.....H. S. Crawford, Harrisonville
16th District.....E. N. Chastain, Butler
17th District.....W. J. Ferguson, Sedalia
18th District.....Frank DeVilbiss, Tipton
19th District.....S. V. Bedford, Jefferson City
20th District.....A. H. Hamel, St. Louis
21st District.....G. M. Rutledge, Ste. Genevieve
22d District.....G. S. Cannon, Fornfelt
23d District.....J. H. Timberman, Marston
24th District.....T. W. Cotton, Van Buren
25th District.....O. A. Smith, Farmington
26th District.....W. H. Breuer, St. James
27th District.....J. H. Elliott, West Plains
28th District.....T. O. Klingner, Springfield
29th District.....R. L. Wills, Neosho

GENERAL SESSION

TUESDAY, MAY 9, 1916—9 A. M.

BALL ROOM, ELMS HOTEL

Address of the President.
C. R. Woodson, M.D., St. Joseph
Dilatation of the Heart.
E. P. Buddy, M.D., St. Louis
Cardiac Incompetency.
Hugh D. Hamilton, M.D., Kansas City
Diagnostic Respiration Tracings, Illustrated.
George Richter, M.D., St. Louis
X-Ray Interpretation of Pulmonary Tuberculosis.
J. J. Singer, M.D., St. Louis
Selective Effect of Irradiation.
W. L. Brosius, M.D., Gallatin
Discussion.....Dr. O. H. McCandless
Stomach Troubles; Their Significance.
Francis Reder, M.D., St. Louis
Syphilis of the Stomach.
G. W. Cale, M.D., St. Louis

Atony, the Basic Factor of Most Gastro-Intestinal Pathology.....John M. Bell, M.D., St. Joseph
The Relation of the Various Specific Reactions of the Treatment of Syphilis.

William K. Trimble, M.D., Kansas City
Raw Starch in the Treatment of Diabetes.

E. B. Knerr, M.D., Kansas City
Discussion.....Dr. G. H. Hoxie

GENERAL SESSION

TUESDAY, MAY 9, 1916—1:30 P. M.

BALL ROOM, ELMS HOTEL

Obligations of Physicians; How May They Best Be Met?.....W. S. Allee, M.D., Olean
Discussion.....Dr. H. E. Pearse
The Medical Service of Life Insurance.

S. B. Scholz, Jr., M.D., St. Louis
Discussion.....Dr. John C. Salter
Anesthetics.....Herbert C. Andersson, Kansas City
The Remote Results Following Splenectomy in Three Cases of Pernicious Anemia.

Walter Baumgarten, M.D., St. Louis
Observations in 200 Routine Fracture Cases with X-Ray Demonstration.

Charles E. Hyndman, M.D., St. Louis
Transplantation of Bone in Ununited Fracture.

Ernest F. Robinson, M.D., Kansas City
Fracture of the Skull.

William Rienhoff, M.D., Springfield
Some Points in the Technic of Cholecystectomy.

M. G. Seelig, M.D., St. Louis
Relationship of Laceration of the Mouth of the Uterus to Cancer of the Uterus.

R. M. Funkhouser, M.D., St. Louis
Sacro-Iliac Luxations.

John G. Hayden, M.D., Kansas City
Discussion.....Dr. Frank D. Dickson

GENERAL SESSION

WEDNESDAY, MAY 10, 1916—9 A. M.

BALL ROOM, ELMS HOTEL

Dyspituitarism; Its Relations to Physical Configuration and Health.....L. S. Milne, M.D., Kansas City
Tetanus: A Report of Three Cases.

J. M. Hale, M.D., Dearborn
Some of the Factors Tending Toward Accuracy in Diagnosis.....W. W. Graves, M.D., St. Louis

The Importance of Early Diagnosis and Proper Treatment of Insanity.

B. R. McAllaster, M.D., Carthage
Paresis, Tabes and Salvasan.

H. Unterberg, M.D., St. Louis
Spinal Cord Neoplasms; with Illustrations.

A. L. Skoog, M.D., Kansas City
Sporadic Meningitis in Children.

P. G. Hurford, M.D., St. Louis
Cerebral Hemorrhage in the Newborn.

J. E. Hunt, M.D., Kansas City
Carcinoma of the Prostate.

E. G. Mark, M.D., Kansas City
Cystitis.....E. F. Higdon, M.D., Richmond

Hookworm...A. H. Thornburgh, M.D., West Plains

GENERAL SESSION

WEDNESDAY, MAY 10, 1916—1:30 P. M.

BALL ROOM, ELMS HOTEL

Appendicitis.....L. A. Todd, M.D., St. Joseph
Perinephritic Abscess...T. M. Paul, M.D., St. Joseph
Systemic Blastomycosis and Coccidioidal Granuloma, with a description of the first reported case of Coccidioidal Granuloma in Missouri.

Samuel T. Lipsitz, M.D., St. Louis
Erythematous and Urticarial Eruptions Resulting from Sensitization to Certain Foods.

W. L. McBride, M.D., Kansas City, and E. H. Schorer, Kansas City.

Nongonorrheal Ophthalmia Neonatorum.
J. H. Thompson, M.D., Kansas City

Acute Glaucoma....Harold Bailey, M.D., Springfield

Indications for Tonsil and Adenoid Operations in Children.....V. W. McCarty, M.D., Kansas City
Subdermal Medication.

J. J. Gaines, M.D., Excelsior Springs
Vaccination in Smallpox, with Illustrations.

F. M. Vessells, M.D., Perryville
The Need of a Real Health Officer for the Rural Districts.....J. Q. Cope, M.D., Lexington

Rural Sanitation.....J. C. Boone, Charleston

PROGRAM, SECRETARIES' ASSOCIATION, 1916

The Duties of a County Secretary, by Dr. G. W. Whiteley, Albany, Secretary Gentry County Medical Society.

Medical Preparedness, by Dr. M. L. Peters, Cameron, Secretary Clinton County Medical Society.

Topic for general discussion: How Can the Attendance at the County Medical Society Be Maintained?

SECRETARIES' BANQUET, SNAPP HOTEL

MONDAY, MAY 8, 6 P. M.

Address, by Dr. F. H. Matthews, Liberty, President State Board of Health.

Address, by Dr. H. S. Crawford, Harrisonville, President Secretaries' Association.

Address, by Dr. C. R. Woodson, St. Joseph, President State Association.

Advice, by Dr. E. J. Goodwin, St. Louis, Secretary State Association.

PROCEEDINGS OF THE WASHINGTON UNIVERSITY MEDICAL SOCIETY

Twenty-Fifth Meeting, Nov. 22, 1915

1. RECENT EXPERIENCES AT THE AMERICAN AMBULANCE IN PARIS.—By DR. NATHANIEL ALLISON.

Twenty-Sixth Meeting, Dec. 13, 1915

1. EXHIBITION OF CASES.

(A) CASE OF WILSON'S DISEASE.—By DR. S. F. WENNERMAN.

Patient, a girl, 18 years old, entered the hospital November 11 of this year. Family history negative. Her past history is as follows:

Normal gestation and delivery; walked at 9 months; at 2 years could repeat rhymes and sentences. From 2 to 5 years she was apparently normal. Usual childhood diseases. At the age of 5 years, the mother

noticed that when the child rose in the morning her eyes were rotated inward. This was noticed at varying times from the fifth to the ninth year. When 9 years old it was noticed that the patient stumbled and fell easily, dragged her toes, etc. At the age of 6 she started to school. Attended two terms and was sent home because she was mentally incapable. At 7 it was noticed that her speech was not clear and sounded as though her tongue were thick. At 12 it was almost impossible for her to be understood. At this time she could not drink out of a cup and would choke on coarser foods. From that time on she has become progressively worse, and two years ago was confined to a chair. Has not walked since. Two years ago she lost all power of speech and has gone on to present condition. Contracture of her legs since confined to the chair.

General physical examination entirely negative; liver dulness normal. Eye, ear, larynx, pelvis, blood and spinal fluid, and urinal examinations and Wassermann all negative. The muscles of legs, arms and abdomen were extremely spastic, whereas reflexes were entirely normal. Mentality extremely deficient, roughly estimated at about three years. Questions not understood. Words apparently heard as mere sounds.

It seemed to us that the diagnosis is probably a somewhat atypical case of progressive lenticular degeneration with involvement of the extrapyramidal motor tracts, that is, Wilson's disease. This diagnosis is based on the following evidence: Gradual onset in a young individual of some process causing marked spasticity, sialorrhea, dysarthria and mental deterioration. This patient had all of the above symptoms but lacked the tremor and facial expression of Wilson's original cases. There are thirteen cases with necropsy of this disease on record. Pathologically it is characterized by a gliosis of the lenticular nuclei associated with a cirrhosis of the liver. Evidence of the cirrhosis cannot usually be determined during life. Prognosis has been uniformly fatal.

DISCUSSION

DR. S. I. SCHWAB: Dr. Wennerman has shown such interest in working up the various puzzling features of this case that I will say only a very few words. The most important fact about Wilson's disease in a diagnostic way is that it cannot be diagnosed during life. We can only approximate the diagnosis. Wilson himself, asserts that unless the cirrhosis of the liver is present in this peculiar type it is not Wilson's disease. There is no known way, as far as I have been able to discover, of making a diagnosis of a liver of this sort during the life of the patient, and until our information reaches that extent, the diagnosis can approach no nearer, I think, than it has reached the cases presented by Dr. Wennerman.

The most striking thing about Wilson's work, is this, that it is undoubtedly the most beautiful, the most striking, the most significant piece of neurologic investigation that has appeared in the literature within at least ten years and perhaps longer. I think any of us who have either met Wilson or read his article will always keep in mind the ideal that he has set for us for clinical investigation.

I might point out one or two other facts about this case. The extraordinary and total mental decline is rather difficult to explain, except on the assumption that this case probably would show some atrophy of the frontal lobes, as has been shown in at least one case that has been studied at postmortem. This disease was received in the early days very skeptically by the general neurologist, and was admitted as a clinical entity on the publication of two cases, postmortem examination of which showed very definite

lenticular degeneration with cavity formation, such as was presented in the pictures shown. The postmortem studies have been very insignificant in number since 1913. In all instances, the most striking thing is the absolute accuracy of Wilson's original investigation. Each one of them has shown the same type of lenticular, bilateral degeneration, with the nonparticipation of the pyramidal system. The extrapyramidal tracts were affected in all of them. The lenticular nuclei were found in a state of softening, and in every case the liver has shown this curious cirrhotic condition.

It seems to me that Wilson's work has formed a very important bridge between a hitherto very poorly understood class of diseases and disturbed functions of the general organism. It is likely that we have in this a tremendous field opening before us in regard to the specific reaction of the basal ganglia to disturbed secretions of an abnormal kind in the body at large, and the way for experimental work has opened in a very beautiful manner. I think it may be that in Parkinson's disease, for example, the pathology of which is absolutely known, the extrapyramidal system is so closely associated clinically with some of these manifestations and may be due to the specific action of certain toxins on portions of the lenticular nucleus. For that reason, I think a rather lengthy time spent in the discussion of this case is worth while.

DR. DOCK: I would like to hear Dr. Fry on the subject, and would also like to ask Dr. Wennerman if he has the volume here to pass it around, showing the liver with the multilobular cirrhosis. The number of cases on record is so small that we cannot draw any conclusions as to the nature of the liver in these individuals, but it is a very striking thing that in one the liver showed a very unusual form on section. The liver, as Dr. Wennerman showed, is a typical hobnail liver externally, but I think the histologic picture, even the cross section, is unlike, at least, the great majority of cases of ordinary cirrhosis or fatty cirrhosis. There is an interesting thing in that connection. If the cirrhosis of the liver is, as has been suggested, the cause of the selective degeneration of the nervous system, cases of cirrhosis should be examined much more commonly than in the past for evidences of focal disease of the brain.

DR. F. R. FRY: Speaking of the remarkable clinical acumen of Wilson in separating this group, there is another little point of histological interest that should not be overlooked and that is that Sir William Gowers many years before had made such accurate records of two cases that Wilson was able to include them in his category. These very perfect records had been saved for years and were entirely available in Wilson's work.

So far as I know, there has not been another case that has shown the amount of mental loss here presented. Some of them have shown a certain amount. Since the advent of the Wilson syndrome, there have been a good many cases reported and about some of them there has been considerable discussion. Even if some of them are pseudocases and cannot be exactly included within the definition of Wilson, still they are very valuable and should be closely studied as has this case.

When I first saw this case the fact that struck me was a progressive degenerative process which was not congenital. With that fact established the question immediately would arise: In what syndrome must it be included, if any? I want to say a word of commendation for the manner in which this mere remnant of a clinical situation has been worked up so that in all probability it has been relegated to its proper category.

(B) DEMONSTRATION OF CASE OF CEREBELLAR TUMOR.—By DR. E. SACHS.

This patient has had a cerebellar tumor of the right side removed. He showed an apparently typical picture of a tumor of the right side of the cerebellum. The two points, however, that I wanted to emphasize particularly are, in the first place, that Dr. Lehman spent a great deal of time on the Bárány tests on this boy, because we felt that the localization of the tumor and the findings at the operation were of particular interest. The tumor was located in the lobus semilunaris inferior and lobus semilunaris superior. According to Bárány, in that region is the localization for disturbances in the elbow joint and in the wrist. Dr. Lehman after repeated trials, was unable to make out any disturbance of that sort. Although but a single case it has important bearing on the reliability of the Bárány tests.

The other point of interest here is that this boy after removal of the tumor, tore out his muscular sutures so that there was a bad hernia there, and since there was no longer any pressure we felt that we ought to repair it. This we did under local anesthesia, putting in a fascial transplant from his thigh. With the consent of the patient an opportunity of stimulating the cerebellum in a conscious patient was offered; an opportunity which, at least, has not arisen frequently. Dr. Lehman watched the eyes and the hands and was able to detect some nystagmus. We used interrupted currents of considerable strength, but the patient felt, of course, nothing—that is, his cerebellum was perfectly insensitive. There was a rise of blood pressure when we applied stimulation. This finding is in accordance with that of Horsley and Clarke on the cerebellum, namely, that the cerebellum is practically insensitive and that the only portion of the cerebellum which gives symptoms with very small currents is the nuclei. The patient does not show anything further. The fascial transplant, which is about 3 by 5 inches seems to have healed and has covered the wound.

NOTE.—Six weeks later: patient has continued perfectly well.

2. HYPERPLASIA OF THE PINEAL BODY.—By DR. HOWARD H. BELL.

Few lesions of the pineal body have been observed. Symptoms attributable to abnormalities of the pineal body have been observed only with an increase in its size and in most instances have been due to regional pressure, though in a few instances associated metabolic manifestations have been attributed to the organ.

The pineal develops as a single evagination from the posterior wall of the diencephalon and receives a connective tissue capsule from which septa divide the body into multilocular compartments occupied by the pineal cells.

In the pineal there is a preponderance of fairly large cells. In addition to this type there is a smaller cell which has all the characteristics of neuroglial cells. There are many cells of an intermediate character which prevent a sharp differentiation between the two types of cells. Beginning at about the seventh year and ending at about the fourteenth year there occur certain well-recognized changes spoken of as involution of the pineal body. After involution is fully established no further changes in its development have been observed.

By involution is designated the changes occurring between the seventh and fourteenth years which are characterized by proliferation of connective tissue, the formation of neuroglial plaques (which may at times contain cysts) and the appearance of concretions.

In the following two cases lesions of the pineal body have been observed:

CASE 1.—The patient, a man 33 years old, entered the hospital suffering from cardiac decompensation. At necropsy it was observed that the auricles communicated by an opening 3.5 cm. in diameter and the heart was greatly hypertrophied.

The pineal body was found to be enlarged, measuring 16 mm. long, 8 mm. broad and 5 mm. from above downward, though in normal relation to adjacent structures. The pineal contained numerous macroscopic and microscopic cysts surrounded by a zone of neuroglial fibers. The pineal cells resemble the normal pineal cells in character.

CASE 2.—The brain after removal was brought to the laboratory and no history or protocol was obtainable. The pineal body was found to measure 15 mm. long and 9 mm. in its other dimensions. The organ is firm and the cut surface dense. No evidence of compression on adjacent structures can be discovered. Microscopic examination revealed the presence of a few cysts similar in character to those in Case 1. The septa are considerably thickened and cells resembling normal pineal cells in character fill the multilocular compartments.

CONCLUSIONS

In none of the organs of internal secretion are there cells with characters similar to those of the pineal body. The pineal cells in young individuals are similar in structure to those in pineal bodies of older individuals, after involution is established. Pineal cells are intimately related to fibers which resemble those of neuroglia and there are transitional forms between neuroglia cells and pineal cells. Pineal cells appear to be modified neuroglia cells.

In association with processes of involution there may be tumor-like enlargement of the pineal body in which there is proliferation of the pineal cells. In association with hyperplasia of these cells there is no functional disturbance.

DISCUSSION

DR. OPIE: Present interest in the pineal is partly centered in its possible relation to certain metabolic changes. Hypertrophy of the external genitals and other symptoms that have been noted in association with lesions destroying the pineal are to a certain extent the opposite of those found with hypertrophy of the pituitary. Such changes have been found especially with tumors of the pineal of young individuals before 10 years of age. Histologic study of the pineal, as Dr. Bell has shown, indicates that it contains cells of the type of neuroglia cells, somewhat modified, in intimate association with fibers similar to those of the neuroglia. Those cells have no similarity to any of the cells of organs of internal secretion. This study concerns a condition in which there is a hyperplasia rather than destruction of these pineal cells. It is interesting to note that in Dr. Bell's case, in which there was full record of the condition during life and in other cases in the literature, there have been no obvious metabolic disturbances.

DR. SACHS: I think it might be well to emphasize that in a recent review on pineal tumors clinically observed, the point was brought out that a very small number of the cases of pineal tumors show the changes which were described. I think it has been said that genital hypertrophy was a phenomenon that was always found in pineal tumors. In this series—I think there were sixty cases—very few of these showed this hypertrophy.

DR. BELL: There are five cases recorded that showed precocious development, and in most instances were associated with teratoma.

3. THE ACETONE BODIES IN THE BLOOD OF CHILDREN WITH EXUDATIVE DIATHESIS.

—By DR. RICHARD S. WEISS.

According to Czerny, the exudative diathesis may be defined as a congenital anomaly in the chemistry of the organism, characterized by an imperfect fat metabolism. The followers of Finklestein are opposed to this theory and maintain that the defect lies in the metabolism of the food salts.

From a review of the extensive literature one gathers that the characteristic symptoms of this condition are as follows:

The condition is congenital: The earliest symptom is failure of prompt equalization of the birth weight after the physiologic loss.

All symptoms are evanescent: Natural immunity to the infectious diseases is apparently decreased. Respiratory tract symptoms, including the so-called asthma of childhood, are quite prominent. Hypertrophy of the tonsils and lymph adenopathy commonly found. Evidence of neuropathy or psychopathy in family; children themselves are "nervous" type; vasomotor instability is very evident. Skin presents many varieties of exudative inflammations, chiefly eczema. Blood often shows eosinophilia. Course is essentially chronic; manifestations usually disappear before puberty but may continue throughout life.

In view of the fact that the condition is commonly attributed to errors in fat metabolism, some experimental evidence was looked for to confirm this view and an estimation of the acetone bodies in the blood of a number of these children was made. The method used was that of Shaffer and Marriott.

The blood from nine frank cases of the exudative diathesis was examined. The results, as compared with Marriott's previously published results, are as follows:

The acetone plus diacetic acid varied from 0.9 mg. to 4.7 mg., as compared to Marriott's figures in normal children of 0.5 mg. to 0.8 mg. The betaoxybutyric acid varied from 1.8 mg. to 6.6 mg. as compared to Marriott's figures in normal children of 1.4 mg. to 4.4 mg. (All the results are expressed in terms of acetone, that is, milligrams of acetone per 100 gm. blood.)

The difference between the normal and pathologic figures, if expressed in percentages, is quite large. But in no case were any such figures found as in Marriott's case of a child after coma (23.4 and 24.8), and child after operation (11.2 and 24.8), and child with syphilis and pyelitis (13.3 and 15.8).

From the above results it might be said that there is a relatively large increase in the acetone bodies in the blood of children with exudative diathesis; however, this increase is very small if compared with children having a profound disturbance of metabolism characterized by acidosis.

No conclusions could be drawn from these studies, but with other evidence, clinical in nature, the author is not convinced that the exudative diathesis is due to an anomaly of fat metabolism.

DISCUSSION

DR. SHAFFER: It seems to me that it would be rather premature at present to draw conclusions concerning the amount or significance of "acetone bodies" in the blood. Until the work of Dr. Marriott in our laboratory, there was no method for the determination of these substances in blood, and only a few analyses have since been made. Dr. Weiss' results on these few cases indicate, as was to be expected, that the acetone bodies in these conditions do not reach values found in diabetes and starvation acidosis. Whether they are normal values cannot be decided until more data are collected, especially during infancy and childhood, and on different diets.

DR. VEEDER: I think Dr. Weiss' paper has given a somewhat wrong impression as to just what is meant by the exudative diathesis. Certain individuals apparently have a tendency to the development of a group of interrelated conditions, and the "tendency" to inflammation, as it has been termed, is called the "exudative" or inflammatory diathesis. In infancy we see eczema of the skin, geographical tongue, spasmodic laryngitis, sibilant bronchitis and noninfectious diarrheas. As the children grow older other types of inflammation recur again and again. These children can be picked out with a little experience as we see them in the clinic. The term is a vague one, and is used simply to cover a group of children in whom a large number of definite symptoms occur. Whether there is a metabolic process or constitutional defect back of it all is impossible to say.

4. CARDIODYNAMICS IN HEART BLOCK AS AFFECTED BY AURICULAR SYSTOLE, AURICULAR FIBRILLATION, AND STIMULATION OF THE VAGUS NERVE.—By DR. ROBERT GESELL.

An attempt was made to determine the relation of ventricular efficiency to ventricular filling and to analyze the various effects of auricular contraction on ventricular efficiency in the mammalian heart.

The effects of auricular systole were studied by modifying or annulling the effectiveness of auricular contraction in various ways. The principal methods were stimulation of the vagus nerve, production of auricular fibrillation and auricular ventricular interference waves.

With the methods employed, auricular and ventricular contraction, variation of length of ventricular fiber (which indirectly gives ventricular volume changes), right and left intraventricular tension, venous pulse and left ventricular output were recorded.

Interference waves show ventricular output to be increased by auricular systole approximately 60 per cent. over that maintained by venous pressure alone. Such waves show that ventricular volume per se is not the factor determining ventricular efficiency, but rather the secondary factors accompanying volume changes.

These factors are initial length of ventricular fiber, initial intraventricular tension and an enhancing surface volume relation.

Increase in length of fiber increases the strength and duration of ventricular contraction. Increase of initial tension increases the strength of contraction by its storage as potential energy in the ventricular walls and later liberation during contraction. Increased initial tension may also have a beneficial effect on the processes of muscular contraction.

The surface volume relation increases ventricular efficiency in various ways:

1. The greater the ventricular volume the greater the output per unit shortening of muscle.

2. In the same way the greater the ventricular volume the greater the filling by venous pressure per unit lengthening of muscle.

3. From 1 it follows that the greater the volume the more nearly does the beginning of contraction become isometric. Therefore, the surface volume relation likewise increases the strength and duration of contraction.

With each auricular systole the enhancing effects of initial length, initial tension and surface volume relation are increased simultaneously. Since the enhancing effect of each depends on various conditions, and since these factors influence each other, a quantitative determination of the importance of each is impossible.

The increase in ventricular volume following increased demands on the heart is an adaptive volume reaction in which the above-mentioned factors increase until the new demands are met.

As long as increased ventricular volume increases ventricular efficiency, auricular systole is effective in increasing this efficiency still more regardless of the venous pressure obtaining.

Auricular fibrillary contractions maintain a ventricular efficiency considerably above that maintained by venous pressure alone.

Results obtained from auricular fibrillation indicate that left auricular systole is more important for cardio-efficiency than right auricular systole.

Stimulation of the vagus nerve in the course of interference waves reduces ventricular efficiency to the minimum occurring in such waves.

DISCUSSION

DR. ROBINSON: An interesting question regarding the relation of auricular and ventricular contractions has been raised by Wenckebach. When the cardiac rate is much increased, the auricular contraction occurs before the ventricular contraction of the preceding cycle is ended, so that the auricles cannot empty themselves. The rate at which this occurs Wenckebach has termed the critical rate, and he attributes to this synchronous contractions of the auricles and ventricles a group of symptoms, arising from the deranged cardiac mechanism. Theoretically this is of much interest, but clinically we see not infrequently synchronous auricular and ventricular contractions without very great derangement of the circulation. In one case, however, when the pulse rate rose to 190 the phenomenon described by Wenckebach was observed in a striking manner.

Twenty-Seventh Meeting, Jan. 10, 1916

1. EXHIBITION OF CASES.

(A) A CASE OF PROBABLE CEREBRAL INTERMITTENT CLAUDICATION.—By DR. A. A. GILBERT.

The patient, a Russian Jew, married, aged 33, was admitted to Barnes Hospital Dec. 14, 1915. His complaint was "weakness of the right side with complete paralysis and loss of speech at times." Family and past history negative. Present illness dates back fourteen years while patient was still in Russia. One day while at work he suddenly dropped his needle from his right hand and found that he was unable to pick it up or to call a workman. He had a similar attack several hours later. The attacks continued, several each day and always in the afternoon, for two weeks when they suddenly ceased, and the patient was free from them for eleven years. Three years ago the attacks recurred; but right leg was also involved in addition to the arm. These attacks lasted several days and again disappeared. Two weeks prior to admission to the Barnes Hospital the attacks again recurred, the patient having several each day. There are no prodromata such as vertigo, tinnitus aurium or unusual sensations in hands or legs. The attacks come on suddenly and last only a few minutes. There is no color change in the skin, no pain in arm or leg at any time. No loss of consciousness or memory.

Physical Examination.—The only positive findings are a moderate bilateral thyroid enlargement with no thrill or bruit, and a definite loss of muscular power on the right side in both arm and leg, with normal muscular tonus, but exaggerated reflexes throughout, slightly more lively on the left. No ankle clonus or Babinski reflex. Blood pressure averages 95 systolic, 65 diastolic. No signs of arterial thickening, either central or peripheral. Sensory tests, while rather

suggestive at first of some hypesthesia, was found to be normal to both cotton wool and pin prick. Heat and cold sensation normal. Ophthalmoscopic and aural examinations negative. Visual and color fields normal. Blood Wassermann, negative; spinal fluid, negative. Electrocardiogram showed normal cardiac mechanism. Sugar tolerance normal.

In this case we have a transitory right hemiplegia and motor speech aphasia in a right-handed man, to the best of our knowledge otherwise practically normal. Diagnostic possibilities are as follows: Frontal lobe tumor, syphilis, malingering, cerebral intermittent claudication, hysteria and localized arteriospasm without definite arterial lesions. The first four possibilities were easily disposed of through the history and the lack of any positive findings such as would be produced by these conditions.

Cerebral intermittent claudication with transient hemiplegia, right or left, with motor aphasia is a definite, well-known condition, hundreds of cases having been reported, but always associated with general arteriosclerotic changes, nephritis and usually hypertension. The theory advanced by Grasset, Dejerine and Oppenheim is that it is an exactly similar process to the well-known types of peripheral intermittent claudication. This case manifestly does not belong in this class, as there are no signs demonstrable of any arterial thickening and the blood pressure is abnormally low. The urine did not show anything suggestive of even the mildest nephritis.

No cause for hysteria could be found in the patient's past experiences, and the fact that patient presented no symptoms such as he describes while in the hospital under observation argues strongly against hysteria. We know of no hysteria unchangingly fulfilling such definite anatomic and physiologic relations. Any hysterical sensory disturbance would be complete and definite and not as in this case. We are absolutely certain that the patient has had no instruction which would enable him to present such a picture.

The diagnosis which we present cannot be definitely made, as it is founded on premises for which we have no absolute proof as we have never observed an attack, but of which we feel that we may justly make use.

In view of the dispute as to whether or not the cerebral arteries have vasomotor supply and the recent work favoring such a view, with the result that the men most qualified to speak accept such a theory, we assume the right to make use of this fact in our diagnosis.

Believing, then, that the cerebral arteries have such nerve supply we know that spasm may occur in them. Dr. Erlanger suggested that the attacks might be due—in view of the low blood pressure—to occasional fatigue of the vasomotor center, the result of continued effort to keep the cerebral circulation up to normal. Most of the attacks have occurred while patient was at work, under the scrutiny of his employer or when rushed. This may be construed either in favor of hysteria or fatigue of an unstable vasomotor system.

A careful review of the entire literature fails to reveal any exactly similar case; the nearest approach being that of a boy 14 years old reported by Weisenberg of Philadelphia. In this case the attacks followed a posterysipelas encephalitis which was followed for five years by typical epileptic convulsions. The epilepsy disappeared and transitory hemiplegia, either right or left occurred, and when right-sided it was accompanied by motor aphasia.

We hope to make further observations in this case and to observe one of his attacks in an effort to clear up the case more definitely. We hope that the presentation of this case in this rather unusual way may serve as a stimulus toward a different conception of some of the cases commonly called hysteria.

DISCUSSION

DR. SCHWAB: I think that Dr. Gilbert's presentation has so successfully taken up every feature of the case that there is little to comment on. I can only say that as far as I can see we have gone as far as we can to illustrate the problem presented. In attempting to establish a diagnosis, it must be kept in mind that we are dealing with a number of unknown factors. The best we can hope to do is to take the factors that are known and give them their due weight. The attempts to reproduce these attacks were futile. There is only one way of telling that this is not a case of hysteria. That is, of course by the strictly anatomic development at the beginning of the attacks. Paralysis of the right side, motor speech phenomena, presence and persistence of the state of muscular weakness of the right arm and right leg.

DR. E. SACHS: Dr. Schwab stated that we are all assuming or taking great liberties in making diagnoses. I think that the way Dr. Gilbert has presented this case and has with great care pointed out various pitfalls in diagnosis, is very fortunate.

There are two points that stand out: First, there is only the history that the patient ever had an attack; second, the physicians are assuming, as Dr. Schwab says, that physiologic theory, which best fits their convenience, but which is not proved. Until the attack has been seen, it is a rather dangerous diagnosis to make.

DR. BREDECK: In reference to the literature, I came on something this afternoon which I thought interesting. In going over the *Lancet*, Oct. 16, 1915, Sharpe reports seven of his own cases which presented aphasia, hemiplegia and hemiparesis. These do not always exhibit high blood pressure. The condition is brought about by toxins circulating in the blood. Several cases were due to emotional causes. Another case presented anginal attacks. The clinical picture of these cases is very similar to that shown by this man.

(B) PRESENTATION OF PATIENT WITH BILATERAL CENTRAL TUBERCLE OF THE CHOROID.—By DR. JOHN GREEN.

Male, aged 46, came under observation Sept. 23, 1915, with central lesions of each choroid. He had been treated by an oculist for several months, apparently on suspicion that the lesions were syphilitic, as he had been given mercury and potassium iodid. The clinical aspect strongly suggested tuberculosis, which was confirmed by the occurrence of a general and focal reaction following a diagnostic tuberculin injection.

The lesion in the left eye is a very old affair, failure of vision beginning fifteen years ago. In this eye the process has run its course. The right eye has a fresh lesion, visual disturbance being first observed last May. The patient is under observation at the present time for an obscure abdominal condition, simulating chronic appendicitis. It is possible that the abdominal lesion is tubercular.

Under increasing doses of tuberculin, T. R., he has regained some vision and the lesion in the right eye is evidently healing. It is quite impossible that he should ever attain the highest vision, owing to the central location of the tubercle.

2. A STUDY OF NORMAL AND PATHOLOGIC CEREBROSPINAL FLUID IN CHILDHOOD.—By DR. MEREDITH R. JOHNSTON.

This work is undertaken to determine the relative value of various methods for the examination of cerebrospinal fluid, with special reference to the Lange colloidal gold reaction. Specimens of eighty-

nine fluids from seventy-nine patients showed evidence of pathologic change with various tests as follows:

	No. Fluids Examined	Per Cent. Positive
Cell count	88	37.5 (pleocytosis)
Noguchi globulin	89	44.
Nonne globulin	89	26.
Lange	89	58.
Wassermann R.	37	32.
Fehling's	89	18. (negative)

It is evident that the colloidal gold reaction is more delicate than any other under consideration. The reaction depends on the presence of protein substances, probably in some degree to the amount present in the fluid.

The character of the colloidal gold reaction is almost specific for certain types of pathologic change in the spinal fluid, the most characteristic change occurring with fluids from cases of cerebrospinal syphilis. In this series fluids from cases of tuberculous meningitis also gave uniformly characteristic reductions of the colloidal gold.

The occurrence of reducing substances with reference to Fehling's solution and to potassium permanganate has practically no value in determining the character of pathologic change in the cerebrospinal fluid.

A normal fluid causes no reduction of the colloidal gold. Pathologic fluids cause a reduction in every instance. A positive Lange reaction may be considered sufficient evidence of pathologic change in a fluid, though negative to all other tests under consideration.

In the colloidal gold test, the characteristic "luetin zone" reaction in hereditary syphilis is sufficiently constant to establish the actual or potential existence of syphilitic affection of the central nervous system, providing the blood Wassermann reaction is positive.

Although the Lange reaction on the cerebrospinal fluid has more value than any other test here used, and more than clinical observations, its dependence on the latter is obvious.

DISCUSSION

DR. VEEDER: Dr. Johnston has covered the subject very thoroughly in his paper. This work was undertaken to clear up certain questions that arose in the routine work at the Children's Hospital. Further observation is necessary before we can be absolutely sure Lange's test responds differently in different diseases. It is interesting to note that we have found hereditary syphilis of the central nervous system far more common than is usually taught. In many of these cases the Lange reaction on the spinal fluid has been positive and the Wassermann test negative. Another important thing in Dr. Johnston's paper was the reaction occurring in acute anterior poliomyelitis. In all these cases the reaction disappeared as the acute condition became chronic. It may prove to be a most valuable diagnostic help in infantile paralysis.

3. THE CHOROIDAL TUBERCLE IN TUBERCULOUS MENINGITIS.—By DR. J. F. BREDECK.

The subject was suggested by Dr. Dock because of the wide difference of opinion which exists concerning the frequency of choroidal tubercles in tuberculous meningitis. A short review of the history of tuberculous meningitis and choroidal tubercles was given. The better textbooks on medicine, neurology, pediatrics and ophthalmology were reviewed. Pediatricists have furnished the most valuable as well as the most conflicting literature on the subject. In general, pediatricists neglect choroidal tubercles ophthalmologically

as well as at postmortem. Among the neurologists we have to choose between those who do not mention the occurrence of choroidal tubercles in tuberculous meningitis at all; those who believe they are rarely found and those who think they are not infrequent. The opinion of the ophthalmologists is equally varied; claiming that they occur in from 10 to 100 per cent. of the cases. Most of the textbooks on medicine are conservative, believing that they are rare, but should be looked for in all cases of tuberculous meningitis.

Particular attention was given to Herbert Koch's and Koplik's series of cases because of the care with which their statistics were formed. In only two references in the literature have choroidal tubercles been found in more than 20 per cent. of the cases of tuberculous meningitis. Marple found them in 100 per cent. of the thirteen cases examined carefully. Carpenter and Stephenson found them in 50 per cent. Uthoff collected a series averaging 19 per cent., which is a conservative estimate.

The series collected in this paper are as follows:

Name	Cases of Meningitis	Cases with Tubercles	Percent- age
Koch	60	8	13.33
Koplik	46	9	19.5
Gruening	40	2	5.0
Heinzel	41	0	00.0
Garlick	26	1	3.84
Marple	13	13	100.00
	226	33	

Average, 14.6 per cent.

A short review of the cases in the St. Louis Children's Hospital and Washington University and Barnes hospitals was given also. Attention was directed to the fact that more careful records, especially of the number of ophthalmoscopic examinations made should be kept in histories.

Many cases were not examined at all for choroidal tubercles during life or postmortem.

From this review it is concluded that:

1. Choroidal tubercles are more frequent than the ordinary reports of cases of tuberculous meningitis would lead us to believe.
2. Complete necropsy reports, including particularly reports on the eyes, have been neglected in tuberculous meningitis.
3. In reporting the frequency of choroidal tubercles in tuberculous meningitis cases it is necessary to state the number of examinations made with the ophthalmoscope before drawing conclusions.
4. Systematic, frequent and accurate routine ophthalmoscopic examinations are neglected in cases of tuberculous meningitis.
5. Recording in histories every ophthalmoscopic examination is of the greatest value, even though examination is negative.
6. Lumbar puncture has led many to neglect ophthalmoscopic examinations.
7. Daily ophthalmoscopic examinations by members of the ophthalmologic department in addition to daily examinations by ward doctors is necessary.
8. Many of our textbooks on medicine, pediatrics, neurology and ophthalmology give either imperfect, erroneous or, sometimes, no idea of the frequency of choroidal tubercles.
9. Choroidal tubercles should be found in 15 to 20 per cent. of all cases of tuberculous meningitis.

DR. GREEN: I regret that all the cases of tuberculous meningitis in the Children's Hospital were not subjected to ophthalmoscopic examination. The cases alluded to occurred during the past three years, during which time I was available for ophthalmoscopic

consultation. Yet it appears, from Dr. Bredeck's examination of records, that only eleven patients were examined ophthalmoscopically. Of these, two showed tubercles of the choroid. Some of these patients came in moribund and died shortly after entering the hospital, which accounts in part for the failure to secure ophthalmoscopic data in more than eleven cases. We should not be contented with a single examination, but should insist on repeated examinations; not only on consecutive days, but several times on each day.

Dr. Marple's positive finding in all observed cases was due to the fact that one of the resident physicians made frequent ophthalmoscopic examinations on each patient. Not rarely, the miliary tubercle was discovered only after several examinations.

Tuberculosis of the choroid appears in two distinct types: miliary tubercles and chronic choroidal tuberculosis. The latter is subdivided into inflammatory tubercular choroiditis and massive tubercle. It is surprising with what frequency one is forced to conclude that single or multiple patches of choroiditis are tubercular in origin. In such cases, tuberculin therapy is eminently satisfactory.

Massive tubercle of the choroid, leading to perforation of the globe, is rare. Personally, I have never seen a case.

DR. DOCK: I should say that the tuberculin tests would be extremely informing. I have done a good deal of work with tuberculin and nothing is more striking than the way you get a reaction around a tubercle in the eye. One milligram of old tuberculin should be given subcutaneously and examination made for two or three days.

DR. SCHWAB: This paper certainly suggests that ophthalmoscopic examination is not made often enough. I think the most valuable part of the paper is the emphasis placed on the daily ophthalmoscopic examination in not only cases of this kind, but in all neurological cases. Furthermore, the putting down of negative tests on the records. We find in looking up the records that nothing has been done, or there is nothing on record. I would like to suggest some sort of method in which the cases are given ophthalmoscopic examination.

DR. BREDECK (closing): As to the frequency of tuberculosis elsewhere in the body, quite a number of cases of tuberculous meningitis had no definite signs of tuberculosis. In the cases that came to necropsy, there have been very few in which tuberculosis was not shown elsewhere. As to the records, I know there have been a number of negative findings reported that have not been put on record. In going over the statistics, it shows the necessity of reporting even negative findings in all of our cases.

4. THE RELATION OF DYSTHYROIDISM AND TUBERCULOSIS.—By DR. LLEWELLYN SALE.
5. A CASE OF TRANSIENT AURICULAR FIBRILLATION FOLLOWING HYDROGEN SULPHID POISONING.—By DR. G. CANBY ROBINSON.

A case of an apparently healthy man of 44 who was overcome by hydrogen sulphid in a chemical works is reported. He had a short period of unconsciousness and struck his head on falling, causing a lacerated scalp wound. He soon regained consciousness and was only dazed when admitted to the hospital. The pharynx was injected and subcrepitant râles were heard, generally throughout both lungs. The heart was beating irregularly, 66 per minute and electrocardiograms showed the presence of auricular fibrillation. A few hours later the heart became regular, rate 60 and electrocardiograms showed a normal cardiac mechanism except for a slight delay in conduction. The outline of cardiac dulness was slightly larger after the normal rhythm set in and the

heart sounds were better heard. Systolic blood pressure 120 mm. Hg., diastolic 75. The man was apparently healthy and went back to work in three days.

It is the occurrence of auricular fibrillation in an apparently healthy man that makes this case worthy of record. Whether the hydrogen sulphid, the blow in the head or some unknown factor was the cause of the fibrillation cannot be determined. The case is reported on account of its bearing on the important question: What is the determining cause of auricular fibrillation in man? It is a very common condition in patients with heart disease. Electrocardiographic records have been obtained from over thirty cases in the past ten months. This case seems to rule out the necessity for heart disease as a basis for fibrillation, and shows that the heart of an apparently healthy man may go into a state of auricular fibrillation and return to the normal mechanism within a few hours. The case is reported because of a belief that such cases have a definite bearing on the very important problem, which is far from being solved, namely, the cause of auricular fibrillation.

ST. LOUIS MEDICAL SOCIETY

Meeting of March 25, 1916

The meeting convened at 8:40 p. m., Dr. L. C. Boisliniere presiding.

Dr. Grindon moved that the by-laws be suspended and we proceed to new business. Carried.

Dr. Kane read the following resolutions:

WHEREAS, The St. Louis Medical Society at a special meeting held on the evening of March 17, 1916, for the purpose of deciding the appeal of Dr. Bransford Lewis from a verdict of the censors finding said Dr. Lewis guilty, on charges which had been preferred against him, did, after a full hearing and trial, decline and refuse to ratify the finding of the Board of Censors; and

WHEREAS, At the regular meeting of the society, held on the evening of March 18, 1916, without notice to the accused and in his absence, voted to reconsider the action of the special meeting on the appeal of said Lewis from said finding of said censors; and

WHEREAS, We are advised by our counsel that said action of said regular meeting, on the evening of March 18, 1916, was illegal and void; Therefore be it

Resolved, That the said action of said Society at said regular meeting on March 18, 1916, be and the same is hereby rescinded and for naught held, and of no effect whatsoever; and be it further

Resolved, That the president and secretary are directed to advise Dr. Bransford Lewis of the adoption of this resolution, and, that the same be printed in the next issue of the *Bulletin*, to be issued, March 30, 1916.

On motion the resolution was unanimously adopted.

The secretary read the resignations of the following gentlemen:

Dear Dr. Boisliniere:

I herewith tender my resignation from the Hospital Committee as I believe it to be futile in the present temper of the society to attempt to carry on the activities of this committee.

Yours very truly,

WALTER BAUMGARTEN.

ST. LOUIS, March 25, 1916.

DR. L. C. BOISLINIERE, President St. Louis Medical Society.

Dear Doctor: I herewith present my resignation as vice president of the St. Louis Medical Society. I do this in protest against the recent action of the society in overriding the recommendation of the Board

of Censors and the Council in the matter of Dr. Lewis. The action taken by the Board of Censors and the Council in this matter was based on unequivocal evidence so that I feel that the society does not stand for the principles that it appears to.

Yours very truly,

WALTER BAUMGARTEN.

ST. LOUIS, March 24, 1916.

DR. J. A. SEABOLD, Secretary,
St. Louis.

Dear Doctor: I hereby tender my resignation as a member of the Council of the St. Louis Medical society.

Very respectfully yours,

JOSEPH GRINDON.

ST. LOUIS, March 25, 1916.

To the President and Members of the St. Louis Medical Society.

Gentlemen: I hereby tender my resignation as a member of your Council.

Respectfully yours,

PHELPS G. HURFORD.

ST. LOUIS, March 25, 1916.

J. A. SEABOLD, M.D., Secretary St. Louis Medical Society.

Dear Doctor: In view of the action of the General Society, taken at the meeting of March 17, I feel that I am no longer in accord with the sentiment of the organization and that my service in the council should terminate. I herewith submit my resignation to take effect at once.

Yours very sincerely,

M. A. BLISS.

ST. LOUIS, March 25, 1916.

DR. L. C. BOISLINIERE, President St. Louis Medical Society.

Dear Doctor: I hereby tender my resignation as councilor of the St. Louis Medical Society.

Respectfully,

C. E. BURFORD.

ST. LOUIS, March 25, 1916.

To the Officers and Members of the St. Louis Medical Society.

Gentlemen: I herewith tender my resignation as a member of the Council of the St. Louis Medical Society.

A. H. HAMEL.

ST. LOUIS, March 24, 1916.

DR. J. A. SEABOLD, Secretary St. Louis Medical Society.

Dear Doctor: Convinced that my idea of the duty of officers in supporting the Principles of Ethics of the American Medical Association and that of the St. Louis Medical Society as expressed at its meeting of March 17 do not agree, I feel that my connection with the council is of no value to the society and I ask that my resignation from that body be accepted.

I desire also to be relieved of my duties as chairman of the Committee on Quacks and Quackery and as a member of the Bartscher Fund Committee.

Very respectfully,

R. EMMET KANE.

ST. LOUIS, March 25, 1916.

To the Members of the St. Louis Medical Society:

Gentlemen: The action of the society at the special meeting of March 17, compels me to present this, my resignation as councilor and chairman of the Library Committee, this to take effect immediately.

Respectfully yours,

ROBERT E. SCHLUETER.

ST. LOUIS, March 25, 1916.

DR. J. A. SEABOLD, Secretary St. Louis Medical Society.

My dear Doctor Seabold: In view of action taken by the St. Louis Medical Society at a special meeting on March 17, 1916, I herewith tender my resignation as chairman of the Committee of Censors, such resignation to take effect at once.

I feel that I can not be of service to the Society under such an interpretation of the Principles of Medical Ethics.

Very respectfully yours,
CHARLES W. TOOKER.

ST. LOUIS, March 25, 1916.

DR. L. C. BOISLINIERE, President St. Louis Medical Society.

Dear Doctor: In view of the action of the St. Louis Medical Society on March 17, 1916, I feel that I am no longer in sympathy with the spirit of the organization. I therefore tender my resignation as a councilor and request that it take effect at once.

F. C. E. KUHLMANN.

ST. LOUIS, March 25, 1916.

St. Louis Medical Society.

Gentlemen: Since it has been the pleasure of the St. Louis Medical Society to reverse the verdict of the censors, which was approved by the council, I feel that my services as a member of said council can be of no further value, hence it is with regret that I tender my resignation.

Respectfully submitted,
EMMETT P. NORTH.

ST. LOUIS, March 25, 1916.

DR. L. C. BOISLINIERE, President St. Louis Medical Society.

Dear Doctor: In view of the action of the St. Louis Medical Society on a question of ethics at the meeting of the society on March 17, 1916, I feel that I am not in sympathy with the spirit of the organization and that my work as a councilor is of no value to the society. I hereby tender my resignation as a councilor and ask that it take effect at once.

Respectfully,
RALPH L. THOMPSON.

ST. LOUIS, March 25, 1916.

J. A. SEABOLD, M.D., Secretary St. Louis Medical Society.

Dear Doctor: I herewith tender my resignation as a member of the Council of the St. Louis Medical Society to take effect at once.

The action of the society, taken at the special meeting, Friday, March 17, convinces me that I am not in accord with the sentiments expressed at that meeting, and that therefore my usefulness as a councilor has ceased. Yours very truly,

ALBERT F. KOETTER.

ST. LOUIS, March 25, 1916.

DR. J. A. SEABOLD, Secretary.

Dear Doctor: Last week I presented to the society my resignation from the Committee of Censors, but the same was not accepted. As I still feel that I am not in accord with the majority of the society and my usefulness on the committee has ended, I beg to again present my resignation from the Committee of Censors in the hope that this time it will be accepted.

Very sincerely yours,
D. BUIE GARSTANG.

ST. LOUIS, March 25, 1916.

DR. L. C. BOISLINIERE, President St. Louis Medical Society.

Dear Sir: The undersigned tenders herewith his resignation as a member of the council.

Very Respectfully,
GEORGE RICHTER.

ST. LOUIS, March 25, 1916.

DR. L. C. BOISLINIERE, President St. Louis Medical Society.

Dear Doctor: By the vote of the St. Louis Medical Society, as expressed March 17, 1916, I believe that my usefulness as a member of the censors committee is no longer desired. I therefore hand you my resignation as such to take effect at once.

Respectfully,
D. E. SCHMALHORST.

ST. LOUIS, March 25, 1916.

DR. J. A. SEABOLD, Secretary.

Dear Doctor: In view of the interpretation placed on the principles of ethics by the St. Louis Medical Society at its meeting on March 17, 1916, I feel I am out of sympathy with the work of the society and will therefore ask that my resignation as a member of the Committee of Ethics be accepted, the resignation to take effect immediately.

Very respectfully,
WILLIAM KERWIN, Chairman.

ST. LOUIS, March 25, 1916.

DR. J. A. SEABOLD, Secretary.

Dear Doctor: In view of the interpretation placed on the principles of ethics by the St. Louis Medical Society at its meeting on March 17, 1916, I feel I am out of sympathy with the work of the society and will therefore ask that my resignation as a member of the Committee of Ethics be accepted, the resignation to take effect immediately.

Very respectfully,
E. P. BUDDY.

ST. LOUIS, March 25, 1916.

DR. J. A. SEABOLD, Secretary.

Dear Doctor: In view of the interpretation placed on the principles of ethics by the St. Louis Medical Society at its meeting on March 17, 1916, I feel I am out of sympathy with the work of the society and will therefore ask that my resignation as a member of the Committee of Ethics be accepted, the resignation to take effect immediately.

Respectfully,
P. J. FARMER.

ST. LOUIS, March 25, 1916.

Gentlemen of the St. Louis Medical Society:

I hereby tender my resignation as treasurer of the St. Louis Medical Society and Chairman of the Bartscher Fund Committee, in view of the action of the said society, March 17, 1916.

Respectfully,
ROBERT M. FUNKHOUSER.

ST. LOUIS, March 25, 1916.

To the Members of the St. Louis Medical Society:

Gentlemen: On account of the action of the society taken at the special meeting, I hereby tender my resignation as a member of the Bartscher Fund Committee.

Very respectfully,
FRANK A. GLASGOW.

Dr. Robert Barclay urged that action on the resignations be postponed.

It was moved that action on the resignations be postponed until the next meeting of the society and that it be made a special order of business at 9 p. m., and be so recorded in the *Bulletin*. Seconded.

Dr. Carson offered an amendment to the effect that the chair select an evening for the consideration of these resignations.

Seconded and carried.

It was moved that the minutes of March 18 be read. Carried.

On motion the minutes were approved as read.

Dr. Carson moved that the society adjourn in honor of Dr. Lutz. Seconded by Dr. James Moores Ball.

The president announced the time of Dr. Lutz' funeral and the active and honorary pallbearers.

Motion carried unanimously.

Attendance, 232.

Adjournment 9:30 p. m.

Meeting of the General Society, April 1

The meeting convened at 8:45 p. m., Dr. L. C. Boisliniere, presiding. The minutes of the previous meeting of March 25 were read and approved.

Dr. J. Louis Swarts introduced the guest of the evening, Dr. William Healy of Chicago, director of the Juvenile Psychopathic Institution, who delivered an address on the "Medical and Psychological Aspects of the Problem of Juvenile Delinquency."

Discussion opened by Judge Hugo Grimm and continued by Mr. Harry McLain, Dr. Sidney Schwab, Judge Henning, Rev. Arthur H. Brittain and Rev. Albert Muntsch, S.J.; Dr. Healy closing.

It was moved that a vote of thanks be extended to Dr. Healy.

An amendment was offered to the effect that a vote of thanks be extended him and that he be elected to honorary membership. Carried.

The secretary read the resignation of Dr. William H. Stauffer as second vice president.

The president called Dr. McCandless to the chair.

Dr. Boisliniere then offered the following resolutions:

WHEREAS, The St. Louis Medical Society, at a special meeting held on March 17, 1916, did hear the appeal of Dr. Bransford Lewis from the verdict of censors, and refused at said meeting to ratify said verdict, and

WHEREAS, As a result of the refusal of said society to ratify said verdict, the first and second vice presidents, treasurer, all the members of the council and the board of censors, and the ethics and Bartscher fund committees, have tendered their resignations being thoroughly convinced and of the opinion that the society at said meeting did abandon its pledge of adherence to the principles of medical ethics, as laid down by the American Medical Association, and which conviction and opinion are shared by a large portion of our membership, and

WHEREAS, The vote, by which the verdict of the board of censors was not ratified, represents approximately only one sixth of the membership of this society; therefore be it

Resolved, That this society reiterates, reaffirms and renews its pledge of adherence to the principles of medical ethics, as laid down by the American Medical Association, and be it further

Resolved, That the action of the St. Louis Medical Society, on March 17, 1916, in which it failed to ratify the verdict of the board of censors, is not to be taken as an indication of the abandonment by this body of the principles of medical ethics of the American Medical Association, and be it further

Resolved, That it is the sense of this society that the first and second vice presidents, treasurer, the members of the council, of the board of censors, and

of the ethics and Bartscher fund committees, have at all times done their full duty, conscientiously and impartially, and, that this body proclaims its complete confidence in them, and urgently requests them to withdraw their resignations; and to the end that peace, harmony and unity of purpose will prevail in its ranks; be it

Resolved, That the society order a general referendum, by mail, to each member of this society of the foregoing resolutions with the understanding that those voting "YES" are in favor of the adoption of said resolutions, and those voting "NO" are in favor of their rejection, and to which each member shall sign his name.

Dr. Boisliniere moved that these resolutions be adopted and be made a matter of general referendum.

Seconded by Dr. Baldwin.

Dr. Morfit offered a substitute motion that consideration of the referendum be postponed until the next meeting. Motion lost.

Dr. Boisliniere's motion carried unanimously.

Dr. Boisliniere resumed the chair and announced that a special order of business would prevail on Saturday, April 8, at 9:30 p. m., to consider the referendum and the resignations. He appointed the following committee to assist the secretary: Drs. William L. Clapper, Carl Powell and George Ives.

The chair announced the appointment of Dr. Albert H. Hamel to fill the vacancy of councilor for the Twentieth District caused by the death of Dr. Lutz.

It was moved that the society express its approval to the president of the Missouri State Medical Association. Carried.

Attendance, 276.

Meeting of April 8

The meeting convened at 8:40 p. m., Dr. L. C. Boisliniere presiding. The minutes of the previous meeting were read and approved.

The scientific program consisted of the following:

"Demonstration of a Spiral Wire Drainage Tube for Surgical Drainage," by Dr. Frank A. Glasgow.

A paper entitled, "The Importance of Eye Ground Findings in the Diagnosis and Prognosis of Bright's Disease" (illustrated with lantern slides), by Dr. J. Ellis Jennings.

Discussion by Dr. George Richter and Dr. James Moores Ball.

At 9:30 p. m. the president declared a special order of business and requested the secretary to announce the result of the referendum vote.

The secretary submitted the following report:

For the adoption of the resolution.....	450
Against the adoption of the resolution.....	25
Ballots returned, signed letters attached.....	5
Ballots returned, unsigned letters attached.....	2
Letters without ballots.....	4
Unsigned ballots returned.....	1
Signed envelope returned without ballot.....	1

(Signed) CARL A. POWELL,
GEORGE IVES,
WILLIAM L. CLAPPER,
J. ALBERT SEABOLD, Chairman.

Dr. Funkhouser, who had been selected by the officers and committees to represent them, made the following announcement:

I have the honor to represent all the officers and committees, except Dr. Baumgarten, who as a result of the referendum vote withdraw their resignations. It was not in a fit of pique nor as a result of caprice that the gentlemen presented their resignations following the action of March 17, 1916. They believed that their usefulness was impaired, as the action of the committee on ethics and that of the censors, ap-

proved by the council, was not ratified. They felt they could do no less than resign and appeal to the society for a vote of *confidence*, as is customary in legislative bodies abroad. They saw no other honorable way, especially in view of the good work of the committees, it being well known that it is very difficult to persuade men like the members of the committees above mentioned to accept and to perform the disagreeable duties connected with their offices. We believe they should receive the support of the society.

Dr. Baumgarten's resignation was read by the president, and, on motion, accepted.

Dr. Morfit asked to be recorded as refusing to vote on the resolution.

The chair announced the death of Dr. Edgar M. Senseney, a member of our society for twenty-eight years.

The chair also announced the serious illness of Dr. Koetter, a former president of the society.

It was moved that the society extend to Dr. Koetter its sincerest sympathy with best wishes for his speedy recovery and return to our midst.

Attendance, 326.

J. ALBERT SEABOLD, M.D., Secretary.

TENTATIVE PROGRAM

Saturday, April 29: The Roentgen Ray in the Diagnosis of Duodenal Ulcer (with lantern slide illustration), Dr. R. Walter Mills.

Saturday, May 6: Leprosy, Isidore Dyer, New Orleans (by invitation).

Saturday, May 13: Diagnosis of Renal Infections, Dr. John R. Caulk; Treatment of Colliculitis, Dr. Claude Pickrell.

Saturday, May 20: Certain Factors of Safety in Surgery, Suggested by a Study of One Hundred Consecutive Operations, Dr. Willard Bartlett; Enormous Hernias, Dr. Walter Hewitt.

Saturday, June 3: The Present Status of the Treatment of Carcinoma of the Mouth in this Community, Dr. Vilray P. Blair.

Saturday, June 10: The Landlord Whom We Have Evicted, Dr. H. M. Whelpley.

Saturday, September 16: Symposium on Intestinal Stasis: 1. Anatomy, Dr. Augustus G. Pohlmann; 2. Roentgen Ray, Dr. Edwin C. Ernst; 3. Diagnosis, Dr. William Engelbach; 4. Neurology, Dr. Hillel Unterberg.

Saturday, September 23: Symposium on Intestinal Stasis (continued): 1. Drugs, Dr. Edward P. Buddy; 2. Diet, Dr. Charles H. Neilson; 3. Surgery, Dr. Francis Rader; 4. Use of Sigmoidoscope, Dr. Horace W. Soper; 5. Physical Therapy, Dr. F. H. Ewerhardt (by invitation).

BATES COUNTY MEDICAL SOCIETY

The Bates County Medical Society held its regular monthly meeting at Butler, Thursday afternoon, March 30, in the office of Dr. T. W. Foster.

Dr. C. J. Allen of Rich Hill, was the only out of town member present, but there was a good attendance of the Butler physicians.

Those present were Drs. T. C. Boulware, T. F. Lockwood, E. N. Chastain, T. W. Foster, C. J. Allen and J. S. Newlon.

The subject for discussion was "Influenza and Its Complications," by Dr. T. W. Foster, followed by Drs. E. N. Chastain, T. C. Boulware, T. F. Lockwood, J. S. Newlon and C. J. Allen. The subject was a very interesting one, as influenza has been a prevalent disease during the past few months.

The term of Dr. E. N. Chastain as councilor expires in May, and it was moved and seconded that he be the choice of this society to serve another

term as councilor for the Sixteenth District. Motion carried.

With no other business the society adjourned to meet April 27, 1916.

J. S. NEWLON, M.D., Secretary.

BUCHANAN COUNTY MEDICAL SOCIETY

The regular meeting of the Buchanan County Medical Society was held at its rooms Wednesday evening, April 5, with fourteen members present. In the absence of the president, Dr. A. R. Timmerman presided. The minutes of the previous meeting were read and approved.

The application of Dr. J. W. Hays for membership, having been regularly indorsed by the board of censors, was voted on and the doctor duly elected a member.

Dr. Spencer, chairman of the Missouri Valley Medical Meeting, made his report of receipts and expenditures; the committee's report was accepted and the committee discharged. The disposition of the balance of \$227.14 was deferred until the next regular business meeting.

On behalf of the Missouri Valley Medical Society, Dr. Fassett thanked the committee and members of the society for the splendid entertainment afforded the visitors attending the meeting.

On motion of Dr. Kenney, seconded by Dr. Holley, the chairman was authorized to appoint a committee of two to address a letter to the Commerce Club, expressing confidence in the medical profession of our city and to advise them that it will not be necessary to import outsiders to take charge of civic, municipal and welfare work. Thereupon the chairman appointed Dr. Kenney and Dr. Owens to serve on the above committee.

An interesting paper on "Gastric Ulcer" was read by Dr. Charles Greenburg.

W. F. GOETZE, M.D., Secretary.

CARTER-SHANNON COUNTY MEDICAL SOCIETY

The Carter-Shannon County Medical Society met at Van Buren in regular session, the president, Dr. Frank Hyde, in the chair.

The minutes of the previous meeting having been read and approved and the routine work disposed of, various subjects were then taken up and discussed by the members present.

Dr. Alexander Johnston of Grandin read a paper entitled, Medical Ethics.

Dr. Orra L. Rutherford of Winona, formerly of St. Louis and a member of the St. Louis Medical Society, presented the subject of Collections and Counter Prescribing by the Druggist.

Dr. T. W. Cotton of Van Buren, held a clinic, a case of pneumonia of unusual interest, in a little child.

The meeting was a success and was enjoyed by all those present.

J. A. CHILTON, M.D., Secretary.

CLAY COUNTY MEDICAL SOCIETY

The Clay County Medical Society met at the Snapp Hotel, Excelsior Springs, Monday evening, March 27. All officers were present. Committees were announced by the president, Dr. Matthews, to assist in caring for the big state meeting in May. An enthusiastic membership gave this meeting the usual impetus and backbone. They do things in Clay County!

Dr. E. J. Goodwin, State Secretary, was the principal speaker on the program, his subject, "The Importance of the County Medical Society." The doctor called the County Society "the bulwark of communal welfare," and spoke of the integrity of

purpose in the A. M. A. in going after medical malefactors. However hard to get the layman to understand it, the legitimate medical practitioner is for the people and against the charlatan and impostor.

The culpable tolerance of osteopaths by some of our members was aptly condemned by Dr. Goodwin. "It is hard to resist the call of the suffering, but when the sufferer chooses, we must leave him with his undertakings." The Doctor urged pure associations among ourselves and among the laity. We should be at the forefront in any municipal measure that comes up involving the public health. The day and age require the closest fraternal relations, the one prime factor of which is the County Society.

It was a great meeting. It is too bad that some members missed it. Next meeting in Liberty, the last Monday evening in April.

J. J. GAINES, M.D., Secretary.

GASCONADE-MARIES-OSAGE COUNTY MEDICAL SOCIETY

The Gasconade-Maries-Osage County Medical Society held a meeting in Dr. C. A. Bunge's office in Bland, Wednesday, April 12. The following members were present: Drs. Fred Aufderheide, C. A. Bunge, J. W. Burgess, C. T. Leach, J. S. Enloe, M. E. Spurgeon, S. E. Gaston, J. J. Radmacher and John D. Seba. The following visitors were present: Dr. S. V. Bedford of Jefferson City, councilor of the district; Drs. Charles L. Klenk and Willis Young of St. Louis.

Dr. Klenk delivered a lecture on serum therapy, and Dr. Willis Young delivered a lecture on a new method of operation for femoral hernia. After a recess, Dr. Young delivered another lecture on a new method of dealing with cirrhosis of the liver complicated with abdominal dropsy. All the subjects were thoroughly discussed by the doctors present.

A social supper was then enjoyed at the Commercial Hotel. After supper a public meeting was held in the Aufderheide Hall. Mrs. G. F. Aufderheide entertained the speakers with a few choice selections of music, after which Rev. C. A. Neumeyer invoked the blessing. Dr. Klenk then delivered a lecture on the preservation of child life and Dr. Young spoke on the subject of cancer. Dr. Bedford also made timely remarks.

Before adjournment the audience thanked the speakers by a rising vote.

JOHN D. SEBA, M.D., Secretary.

GREENE COUNTY MEDICAL SOCIETY

The Greene County Medical Society met in regular session March 23, with the president, Dr. C. W. Russell in the chair and an attendance of 40.

Dr. A. E. Hertzler of Kansas City, was the guest of the society and delivered an excellent address illustrated with lantern slides on the anatomy and pathology of the peritoneum. Dr. Hertzler has made a special study of the pathology of the peritoneum and his illustrations showed the results of a great deal of experimental work. It is a great help to a society to have such men as Dr. Hertzler appear on the program. It gives new life to the society and maintains good attendance of the members.

Meeting of April 14

The society met in the Physicians' Club rooms, April 14. In the absence of the president, Dr. S. A. Johnson, vice president, presided.

Dr. Fuson moved that the Greene County Medical Society instruct its delegates to invite the State Medi-

cal Association to meet in Springfield in 1917. Motion seconded and carried unanimously. Our railroad facilities are ample, our hotel accommodations sufficient, our city attractive, our physicians wide awake and energetic, our water the purest, and our hospitality unexcelled. We extend a cordial invitation for the association to meet with us next year.

T. O. KLINGNER, M.D., Secretary.

LAWRENCE-STONE COUNTY MEDICAL SOCIETY

The Lawrence-Stone County Medical Society met at Aurora, March 7, 1916. The president being absent, the meeting was called to order by Dr. C. A. Moore, vice president. The following were present: Drs. F. S. Stevenson, R. C. Robertson, C. A. Moore, T. D. Miller, D. C. Adams, J. A. Welton, Aurora; E. E. Wade, Clever; L. Henson, Galena; H. L. Kerr, Crane; T. T. O'Dell and J. P. Andrews, Marionville; W. S. Loveland, Verona; visitors: Drs. E. C. Roseberry, Joseph Love and Glen of Springfield.

The following program was rendered:

"How Are You?" H. L. Kerr, Crane.

"A Few Thoughts on Therapeutics," J. P. Andrews, Marionville.

"The Examination of Young Children," W. S. Loveland, Verona.

"Report of Six Cases of Nephritis in Children Under 12 Years of Age," T. D. Miller, Aurora.

Dr. Joseph Love of Springfield, and Dr. E. E. Wade of Clever, were made honorary members of the society.

The next meeting will be held at Verona, June 6, 1916. This meeting will be open to the public.

R. C. ROBERTSON, M.D., Secretary.

SALINE COUNTY MEDICAL SOCIETY

The Saline County Medical Society met in Marshall, Tuesday, April 11 and was called to order at 2 p. m. by the first vice president, Dr. Morris McGuire of Arrow Rock. The minutes of the last meeting were read and approved.

Dr. Samuel F. Mead of Slater, upon favorable report of Board of Censors, was elected to membership in the society.

A letter from the Medical Association of the Southwest was read containing an invitation to all members of the Missouri State Medical Association to become members of the Medical Association of the Southwest.

A motion carried to permit the regular program committee to arrange social features for the May meeting which follows closely after the meeting of the State Association. The date selected was May 16.

Dr. L. S. James of Elmwood, read an interesting paper on influenza. The paper was discussed by Dr. J. R. Hall of Marshall and Dr. J. E. Harris of Marshall. Dr. D. F. Manning discussed the treatment of influenza by bacterins in which he gave encouraging results.

Dr. A. E. Gore read a paper on leukemia which was discussed by Dr. J. R. Hall and other members of the society.

Drs. A. E. Gore and L. S. James were requested to furnish papers at the next meeting of our District Society in June.

Dr. Morris McGuire will represent our County Society in the State Medical meeting at Excelsior Springs in May.

Adjourned to meet May 16 at the Court House in Marshall.

FLOYD W. TUTTLE, M.D., Secretary.

SCOTT COUNTY MEDICAL SOCIETY

The Scott County Medical Society met in Oran, April 3, with the following members present: Drs. William S. Hutton, G. S. Cannon, P. S. Tate, T. R. Frazer, George A. Sample, W. H. Wescoat and J. A. Cline; also Dr. Traubitz, a visiting physician.

The following papers were read: "A Plan for Emergency Surgery," by Dr. Sample; "Clinical Microscopy," by Dr. Frazer; "Obscure Septic Infection," by Dr. Tate.

All the papers were fully discussed by the members.

The time and place for the next meeting was not agreed on, as several of the members had to catch a train which came in rather unexpectedly, so the meeting adjourned.

J. A. CLINE, M.D., Secretary.

PROPAGANDA FOR REFORM

DIARSENOL.—Dr. E. H. Martin, Hot Springs, Ark., reports that, after giving several hundred doses of Diarsenol without any bad effects whatever, he had two cases in which nausea, vomiting and symptoms of apparent collapse such as have been previously reported by another writer. He found on investigation that the specimens which in his hands gave untoward results as well as those previously reported on and two further accidents were all due to a product bearing the same lot number (*Jour. A. M. A.*, April 8, 1916, p. 1155).

PRESCRIBING OF NARCOTICS.—The Harrison Anti-narcotic law exempts from its operations ready-made mixtures containing specified small quantities of narcotics, but requires physicians' prescriptions containing small amounts of narcotics to be registered. The law should be made consistent by requiring the registration of all prescriptions containing narcotics in any amount. The inconsistency in the law should be removed by prohibiting absolutely the sale, except on a physician's prescription, of preparations containing narcotics in any proportion. The continued uses of small doses of a narcotic drug is just as capable of establishing the habit as is the use of larger doses (*Jour. A. M. A.*, April 8, 1916, p. 1156).

PIPERAZIN, LYSIDIN, LITHIUM CARBONATE, SODIUM BICARBONATE AND SODIUM CITRATE AS URIC ACID SOLVENTS.—H. D. Haskins has studied the uric acid solvent power of urine of persons taking the various substances classed as uric acid solvents. The investigation lead to the following conclusions: 1. Piperazin can cause the urine to dissolve more uric acid than it would without the drug, and this effect is most marked if sodium citrate or bicarbonate be also given and if diuresis be avoided. 2. Lysidin can act as a uric acid solvent but is not a practical therapeutic agent because of the large doses required. 3. Lithium carbonate is a uric acid solvent if large enough doses are used, but is unsafe and possesses no advantage over sodium citrate or bicarbonate. 4. Sodium citrate and bicarbonate are reliable and satisfactory uric acid dissolving agents when given in such dosage as to keep the urine alkaline (*The Arch. Int. Med.*, March, 15, 1916, p. 405).

EMETIC ACTION OF STROPHANTHUS NOT DUE TO OIL.—Hatcher and Eggleston have shown that the digitalis bodies produce nausea and vomiting through action on the medulla and that the direct action on the mucous membrane of the stomach is unimportant. They demonstrated that the fixed oil (fat) of digitalis produced no action and conclude therefore that attempts to avoid the emetic action of digitalis by removal of oil from digitalis preparations is of no avail. Similarly Hatcher has recently determined that the oil contained in strophanthus is not the cause of the nausea sometimes produced by this drug. While removal of the oil renders tincture of strophanthus more "elegant" pharmaceutically, such removal is of no therapeutic importance (*Jour. A. M. A.*, April 15, 1916, p. 1199).

A MUCH NEEDED PHARMACOLOGIC INVESTIGATION.—J. D. Pilcher, University of Nebraska, College of Medicine, has investigated the action on the uterus of the guinea-pig of a number of drugs which are widely used as ingredients of proprietary "female remedies," and which so far have been little, or not at all, studied. Blue cohosh (*Caulophyllum thalictroides*) showed a variable tonic effect. Pulsatilla (*Anemone pulsatilla* or *Pulsatilla pratensis*), unicorn root (*Aletris farinosa*), figwort (*Scrophularia marylan-*

ST. LOUIS COUNTY MEDICAL SOCIETY

The St. Louis County Medical Society held its regular monthly meeting March 8, at Webster Groves. Members present were, Drs. P. M. Brossard, L. W. Cape, H. Carter, R. B. Denny, J. H. Armstrong, M. Baker, R. D. Moore, H. G. Wyer, G. Jones and H. Miles.

Dr. C. A. Vosburgh, who was an invited guest, read a paper on "Tuberculosis of the Kidney." It was a very interesting and instructive paper and was generally discussed by the members present.

Dr. H. G. Wyer reported a very interesting case of suspected pregnancy and labor in a woman 46 years of age, with indications of a child in utero about to be born, yet no birth occurred.

Dr. Arthur Conway was admitted to membership.

The St. Louis County Medical Society met in regular monthly session in Webster Groves, April 12, at 2:30 p. m.

Dr. W. H. Stauffer of St. Louis, being present by request, read a very able and interesting paper on ischiorectal abscess and treatment of anal fistula.

Dr. T. K. Bowles of Kirkwood, and Dr. A. W. Westrup of Webster Groves, were admitted to membership.

Those present were: Drs. P. M. Brossard, president; C. L. Armstrong, W. H. Townsend, R. B. Denny, Arthur Conway, R. D. Moore, C. A. P. Dunnavant, H. G. Wyer, Otto Koch, W. H. Stauffer, and G. Jones.

It was an interesting meeting and enjoyed by all present.

GARNETT JONES, M.D., Secretary.

THE TRUTH ABOUT MEDICINES

NEW AND NONOFFICIAL REMEDIES

Since the publication of New and Nonofficial Remedies, 1916, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

STYRACOL TABLETS, 5 GRAINS.—Each tablet contains 5 grains styracol. Merck and Co., New York.

TANNALBIN TABLETS, 5 GRAINS.—Each tablet contains 5 grains tannalbin. Merck and Co., New York.

STANOLIND LIQUID PARAFFIN.—A non-proprietary brand of liquid petrolatum, complying with the standards of the U. S. P., 8th ed., and made from American petroleum. Standard Oil Company of Indiana, Chicago (*Jour. A. M. A.*, April 1, 1916, p. 1027).

dica), valerian (*Valeriana officinalis*) and skullcap (*Scutellaria lateriflora*) were more or less depressant. The following drugs gave negative results: cramp bark (*Viburnum opulus*), black haw (*Viburnum prunifolium*), swamp maple (*Acer spicatum*), false unicorn (*Chamaelirium luteum* or *He lonias dioica*), liferoot (*Senecio aureus*), wild yam (*Dioscorea villosa*), motherwort (*Leonurus cardiaca*), passion flower (*Passiflora incarnata*) and squaw vine (*Mitchella repens*). It is to be hoped that Pilcher's work will permit the formation of an opinion as to the therapeutic value of those drugs in which some degree of activity has been found (*Jour. A. M. A.*, April 15, 1916, p. 1205).

WHY GLYCEROPHOSPHATES?—The glycerophosphates are split up in the intestines into ordinary phosphates and absorbed and utilized, if they are utilized at all. There is no evidence that glycerophosphates have any pharmacologic action to warrant the belief that they are of use as therapeutic agents. The belief in their value is kept alive by the promotion of certain proprietary mixtures. The glycerophosphates will be continued to be manufactured until physicians refuse to prescribe them. A manufacturer has even substituted glycerophosphates for the potent yellow phosphorus in his elixir of phosphorus, nux vomica and damiana and, so his chemist reports, physicians continue to prescribe the proprietary the composition of which has been altered (*Jour. A. M. A.*, April 15, 1916, p. 1205).

ELIXIR CALCYLATES COMPOUND.—Each dessertspoonful of this specialty is said to contain the "equivalent of" Calcylates (calcium and strontium di-salicylate) 5 grains, resin of guaiac $\frac{1}{2}$ grain, powdered digitalis leaves $\frac{1}{4}$ grain, powdered squill $\frac{1}{4}$ grain, extract of colchicum seed $\frac{1}{4}$ grain, cascarn $\frac{1}{16}$ grain, aromatics. One or two dessertspoonfuls are to be taken three or four times a day. The mixture is to be given in cases of "rheumatism, lumbago, neuralgia, sciatica, etc." If a salicylate is indicated it should be given in sufficient amount in the form of sodium salicylate; the patient should not be given a preparation containing ingredients in the way of guaiac, squill and colchicum which are not needed. Digitalis is rarely indicated in inflammatory rheumatism and it should never be given in a multiple mixture (*Jour. A. M. A.*, April 22, 1916, p. 1307).

EMETIN HYDROCHLORID VARIABLE.—It should not be taken for granted that because a drug bears the name of a definite compound it is true to name and pure, and therefore trustworthy in its action. This fact has recently been demonstrated in regard to emetin hydrochlorid. Two cases in which the administration of emetin hydrochlorid produced symptoms of poisoning (one terminating fatally) at the Johns Hopkins Medical Clinic led to an investigation by R. L. Levy and L. G. Rowntree, in which the emetin hydrochlorid preparations of five pharmaceutical houses were used. This investigation led to the conclusion that the products supplied as emetin hydrochlorid are variable in composition and in toxicity to a degree which constitutes a serious danger. It behooves physicians to insist on some declaration from the firm supplying emetin hydrochlorid as to its purity and as to the standard employed. Levy and Rowntree emphasize also the fact that emetin hydrochlorid medication itself is not an innocuous procedure. To avoid the toxic effects of emetin, the dosage should be carefully adjusted for each individual and the treatment should be given in courses at intervals of several days or a week. The subcutaneous method of administration is to be preferred (*The Arch. Int. Med.*, March 15, 1916, p. 420).

BOOK REVIEWS

THE CLINICS BY DR. JOHN MURPHY for February, 1916, contain twenty-four articles comprising case histories of a variety of conditions. This is No. 1 of Vol. V. W. B. Saunders Company, Philadelphia. Bi-monthly.

ANNALS OF SURGERY for March, 1916, contains fifteen articles and the proceedings of the Philadelphia Academy of Surgery for Dec. 6, 1915. Among the important papers is one by C. Mansell Moulin, M.D., on The Classification of Tumors. Dr. Isidore Cohn writes on Acute Dilatation of the Stomach Complicating Operations on the Extremities. J. B. Lippincott Company, Philadelphia.

A GUIDE TO GYNECOLOGY IN GENERAL PRACTICE. By Comyns Berkeley, M.A., M.D., M.C., (Cantab.), F.R.C.P. (Lond.), and Victor Bonney, M.S., M.D., B.Sc. (Lond.); F.R.C.S. (Eng.), M.R.C.P. (Lond.). Oxford University Press, American Branch, 35 W. Thirty-Second Street, New York.

The authors assume that the reader has graduated in medicine and needs a helping hand in his practice. The book differs from most works of its kind by being extremely practical while it does not overlook the smallest detail. It is a complete gynecology which does not describe the technic of one operation. The non-surgical treatment of gynecological affections has been put on a scientific basis. The all-important question of uterine bleeding is handled in a masterly manner. The chapter on abdominal and pelvic pain, as well as the one on diseases of the cervix, make interesting reading. This book is particularly valuable to the man who practices far from a hospital. W. C. G.

OPERATIVE GYNECOLOGY. By Harry Sturgeon Crossen, M.D., F.A.C.S. C. V. Mosby Co., St. Louis.

No man can learn to do surgery from a book, but this book will be a great help to any man who operates on women. It is a complete collection of all that is known on the subject of operative gynecology. It is Crossen's masterpiece.

The chapter on the early diagnosis and treatment of malignancy is a decided improvement on the older text-books. The chapter on uterine displacements is very complete and can be read as though it were a separate publication.

The descriptions and illustrations of plastic operations of the external genitals are very convincing. W. C. G.

PAINLESS CHILDBIRTH, EUTOCIA AND NITROUS OXIDE-OXYGEN ANALGESIA. By Carl Henry Davis, M.D. Publisher, Forbes and Co., Chicago.

A rather interesting but of course superficial resume of the history of obstetrics, leads up to the various attempts at obstetrical anesthesia during modern times. The rest of the book is devoted to a painstaking analysis of the author's 154 cases.

It will be hard for some of us to believe that labor is shortened 25 per cent. by nitrous oxide analgesia; that the secretion of milk is stimulated; and that obstetrical injuries are less frequent. The small percentage of tears is probably due to the skill of Dr. Davis and his associates.

It is quite an addition to our literature on obstetrical anesthesia, and can be read with profit by many of us, especially general practitioners. W. C. G.

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E. J. GOODWIN, M.D.,
EDITOR

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S. P. CHILD, M.D.
M. A. BLISS, M.D.

ORIGINAL ARTICLES

MINERS' CONSUMPTION IN SOUTHWESTERN MISSOURI

NOTE.—For detailed account of mining methods, causes of rock dust, methods of obtaining dust and air samples, see description by Edwin Higgins, Mining Engineer, in Technical Paper 105, U. S. Bureau of Mines, Washington, D. C.

A. J. LANZA

Passed Assistant Surgeon, U. S. Public Health Service

WASHINGTON, D. C.

Miners' consumption has for a long time been recognized as a health hazard of the metal mining industry, although it has not been as extensively investigated in this country as it has in South Africa, Australia and elsewhere. Miners' consumption, miners' phthisis, miners' asthma, miners' lung, silicosis, and chalicosis are some of the names that are somewhat loosely applied to this pulmonary affection, and in this country there is some confusion as to the nature of miners' consumption and its relationship to tuberculosis.

Briefly, miners' consumption is a pneumoconiosis, due to stone dust generally having a high silica content. It is most commonly found in "hard rock" mines, as the greater the percentage of silica the harder the rock. Various mining operations cause the underground atmosphere to be permeated with rock dust, and the continued inhalation of this silicious dust produces a pulmonary fibrosis consisting of a general peribronchial thickening, with perhaps actual destruction of alveolar cells from direct action of the dust. This results in a gradual impairment of function, the whole process being purely mechanical and noninfectious.

No official investigation of miners' consumption had been undertaken previous to the studies commenced by the U. S. Public Health Service in cooperation with the U. S. Bureau of Mines in October, 1914, in the Joplin district. This investigation continued throughout the

calendar year of 1915. The Joplin district was selected because of the amount of pulmonary disease with which it was credited, and at the request of various organizations and individuals in Jasper County.

Investigation revealed that in the Joplin district, miners' consumption was, as a rule, associated with a certain group of mines known locally as "sheet ground" mines. In these the zinc ore for which mining is done is imbedded in horizontal layers of flint, which, sheet like, lay parallel to the surface. Mining operations are therefore done in flint, an exceedingly hard rock averaging 95 per cent. or more silica, and as a result of drilling, blasting and other operations, the miners are exposed to flint dust. This flint dust is very hard, fine, sharp and insoluble, indeed as formidable an industrial dust as can be imagined.

Aside from the dust, working conditions were good. The mines were usually well ventilated, the temperature was favorable and smoke and fume hazards were slight.

Besides underground investigations, an educational campaign was conducted for the purpose of acquainting the miners with the harmful properties of rock dust, and to encourage them to present themselves for physical examination.

A series of physical examinations was made, embracing 720 miners, nearly all of whom were still working and came to the office in Webb City voluntarily. Of the 720 we found definite signs of lung injury in 433, or 60 per cent.; 103 of these latter also had tubercle bacilli in their sputum.¹ It is on these examinations that the following data are based. In each case a careful history was taken, the miner then stripped and examined, and the blood-pressure ascertained.

Throughout this series of examinations the most prominent symptom was dyspnea on exertion. The dyspnea was gradual, almost insidious, in its onset, and there was evident a con-

1. The writer wishes to point out that the above figures do not mean that 60 per cent. of the sheet ground miners have miners' consumption. As near as can be judged, the actual percentage is about half that amount.

nection between its severity and the length of time the miner had worked in sheet ground. Extent of exposure seemed to be a more important factor than individual susceptibility and depended not so much on the nature of the work done underground, but on whether the miner worked steadily from month to month, lay off occasionally, or, as is frequently the custom, left the mines at certain intervals to do other work, notably harvesting.

The dyspnea was usually accompanied by cough and expectoration, but even dyspnea severe enough to incapacitate for work was seen without these other symptoms being present. The majority of the patients looked well, and aside from the dyspnea felt well. In many cases the dyspnea was severe, often urgent, and it was remarkable how men in this state continued to work underground.

For convenience, the degree of dyspnea, with resulting disability, was used to divide these patients into three stages: (1) slight or moderate dyspnea, with no impairment of working ability; (2) moderate or moderately severe dyspnea, with impairment of working ability; (3) severe dyspnea with total, or nearly total, incapacity for work.

Pain in the chest, diminished expansion, and loss of weight were constant symptoms throughout. Pain in the chest was apt to appear early and at first to be more or less shifting in character; as the fibrosis progressed the pain would generally become located in one place and remain there some time. This chest pain was a steady pain, sometimes increased by inhalation, and without any pleural rub. The majority of patients also complained of the fact that they were unable to draw a deep breath; as they expressed it their breath seemed to go only half way down. In the advanced cases with severe dyspnea this diminished expansion was striking, all the muscles of inspiration being employed in the useless effort to fully inflate the lungs. Loss of weight, while frequently present, was not marked until the third stage was reached. Even then, when quite thin, the patients' faces had a good color and they did not look sick.

Cough antedated dyspnea when, as was sometimes the case, the latter was ushered in by a bronchitis, but more often the cough did not appear until after the dyspnea. Cough was apt to be severe at night and in the morning, and there was a marked tendency for advanced cases to vomit their breakfast. The amount of cough and the amount of sputum varied widely and had no relation to the degree of dyspnea, but frequently were an indication of an infection planted on the dust fibrosis. In advanced cases the sputum was often characteristic, in fact, diagnostic—very tenacious and a marked slaty blue in color. This coloration is due to

the presence of flint dust, previously inhaled, and in slide preparations the nature of this mineral dust can be identified. The bulk of the dust particles in the sputum measured from 2 to 5 microns in diameter, few particles being larger than 10 microns.

Night sweats were not frequent. When present they indicated a pus or a tubercle infection, but many cases with these infections present had no night sweats.

Hemorrhages were comparatively frequent, 3.3 per cent. of those in the first stage, 10 per cent. of those in the second stage, and 25 per cent. of those in the third stage, both tuberculous and nontuberculous, having had one or more.

As against these symptoms the physical signs were few and apparently insufficient to account for them. Many, even severe cases, presented no physical signs. Diminished breath sounds were the most constant sign, with sometimes diminished vocal resonance. In advanced cases sonorous râles and a variety of adventitious sounds were heard. Moist râles, while fairly common in the advanced cases, rarely occurred without other râles accompanying them. There was no apparent connection between the amount of sputum and the presence of moist râles. Some of the advanced cases showed cavity formation.

Blood pressures were without special significance. As the patient progressed downward the blood pressure fell. There was no rise above normal in the early stage.

A summary of the symptoms and the physical signs gives us three distinguishing features of miners' consumption. First, a gradually increasing dyspnea, with pain in the chest and diminished expansion; second, an absence of physical signs, or an absence of apparently adequate physical signs; third, the appearance of good health. While the sputum may serve to clear up the diagnosis occasionally, it is on a knowledge of the patient's occupation that the diagnosis largely depends. The disproportion between symptoms and signs distinguishes between miners' consumption and tuberculosis; the degree of dyspnea observed in the former would in tuberculosis be compatible only with far-advanced cases with ample physical signs. Even where a tuberculous infection is grafted on a silicosis, the resulting clinical picture may not, and often does not, resemble ordinary tuberculosis.

The progress of a case of miners' consumption may be influenced in several ways. The fibrosis may rarely proceed unchanged to total incapacity, with death finally from some acute intercurrent malady. At any stage a pus infection may take place; at any stage a tubercle infection may take place, or both may occur. Infection is infrequent in early cases, fairly

common in the second stage and more frequent in the third. Generally there are tubercle bacilli in the sputum before death. A tubercle infection is bound to occur sooner or later, even though but a terminal phenomenon. When tubercle infection does occur, the resulting clinical picture may resemble somewhat a fibroid tuberculosis. On the other hand, a tubercle infection implanted on a well-developed case of silicosis may run an acute course with pronounced symptoms and death in two or three months. Tubercle infection seems to be more active when a pus infection is also present to assist in breaking down the tissues. While at times the incidence of a tubercle infection is recognized by an increase in the severity of the symptoms and a sudden downward progress of the patient, the presence of tubercle bacilli in the sputum may be the only indication that such infection has occurred. Moist râles are present without tubercle bacilli in the sputum and vice versa.

A series of temperature records of men in the second and third stages, with cough and expectoration and no tubercle bacilli in the sputum, failed to show any afternoon elevation of temperature and all were working.

The prognosis in miners' consumption after the first stage is bad. After infection has occurred the prognosis is practically hopeless, especially if, as is usually the case, the patient is compelled through necessity to keep on with his underground work. The writer has seen a few patients who had reached the third stage, but with little cough or expectoration, improve after months of rest, but these were conspicuous exceptions.

The following cases are quoted as being fairly typical of the whole series:

CASE 1.—B. O., aged 21, mining eight years in sheet ground; family history negative, previous illness measles. Appearance is healthy, nutrition good; present weight being 165, but should weigh 175. Has had a moderate cough for six months and dyspnea on exertion for past year, now moderate; various pains in the chest, mostly front; no night sweats, no hemorrhages; notices that he cannot draw as deep a breath as formerly. Pulse 84, blood pressure 96-124; a small amount of tenacious sputum. On physical examination the lungs are apparently clear. This man is in the first stage of miners' consumption. He feels well and runs a drilling machine without noticing any impairment of working ability, but presents the cardinal symptoms of miners' consumption—dyspnea, pain in the chest and diminished expansion.

CASE 2.—E. C., aged 30, mining fourteen years; seven years in sheet ground; family history negative, no previous illness; is the picture of robust health. Present weight 165, having lost 20 pounds in the past three years. For two years has had a cough, now moderately severe; for three years has been dyspneic, last six months severe. No night sweats, no hemorrhages; pain over the left side of chest. Notices diminished expansion. Blood pressure 90-130, and has a moderate amount of sputum, blue at times. Examination showed more or less impairment on percussion over the whole chest. There were some crackling râles behind on the right side, and

moist and crackling râles scattered over the left side, more noticeable over the upper half. Vocal resonance was diminished over the left side. An advanced case of miners' consumption. Had quit work ten months previous to examination on account of dyspnea, and now feels well, but notices dyspnea is increasing all the time. Died one month after examination.

CASE 3.—O. P., aged 36, mining in sheet ground four years; family history negative, previous illness malaria. Appearance healthy, present weight 148, should weigh 175. Has had a cough for two years, now severe, and vomits breakfast. Has been dyspneic about two years, now urgent. Spit some blood a year and a half ago; pain over base each lung, no night sweats. Expansion is diminished, has large amount of thick sputum, blood pressure 100-132. Examination showed breath sounds somewhat weakened over all, with a few squeaks at left apex. Still working underground, but quit soon after examination and works in shoe factory.

CASE 4.—W. J., aged 35, mining in sheet ground eleven years; family history negative, previous illness malaria. Appearance healthy, weighs 175, and has lost 25 pounds in last two years. Has coughed for two years, now severe; dyspneic for two years, now severe. No hemorrhage; dubious history of night sweats two years ago; various pains in the chest. Has diminished expansion, moderate amount of sputum, positive for tubercle bacilli, blood pressure 90-114. Examination shows right apex dull on percussion, right shoulder lags. Breath sounds are slightly weak on the left side. No râles. An advanced case of miners' consumption with a tubercle infection; so dyspneic has been forced to stop work, but is the picture of health and if his dyspnea were not apparent, would pass an ordinary physical examination.

CASE 5.—O. L., aged 26, mining in sheet ground eight years; family history negative, previous illnesses typhoid and smallpox. Appearance healthy, weight 137, should weigh 150, having lost 13 pounds in three weeks. Has been coughing a little for two or three months, and has been dyspneic for a year, now severe. No hemorrhages, an occasional night sweat, and some pain in upper part of chest. Expansion is diminished, has a large amount of sputum positive for tubercle bacilli; blood pressure 80-112. Examination shows breath sounds somewhat weakened on the right side behind, and over all on left side, more so behind. Vocal resonance is slightly diminished over left side. No râles. Has afternoon fever. A month after examination was still working underground. Another far advanced case with a tubercle infection; seems to be going downhill rather rapidly.

In these five cases there was no apparent organic disease outside of the lungs.

While it is probably true that much, if not most, miners' consumption is nontuberculous, in that tubercle infection is most frequent in the latter stages, from a public health point of view we cannot afford to make this distinction. Any case of miners' consumption may become tuberculous at any time, and practically every case will become so, if only shortly before death. Consequently the danger of infection of the family and associates is imminent, and the same precautions as to the disposal of sputum and other hygienic management should prevail as if the patient were, in fact, tuberculous. In this way only can we properly safeguard the family.

Poor housing conditions, alcoholism, and poverty all have their influence on miners' consumption, in that they tend to depress the physical resistance of the patient, and together with the crowding seen under these circumstances, favor the spread of tubercle infection all around.

In conclusion, the writer desires to make an earnest plea for the accurate reporting of deaths from miners' consumption. Efforts to overcome an important industrial disease of this sort depend largely on reliable death statistics. At present the bulk of the victims of rock dust have tuberculosis or pneumonia recorded as a cause of their death. When a miner dies, having a history of exposure to hard rock dust and dyspnea that antedated other pronounced symptoms, and accompanied by gradual disability, the cause of death should be recorded as silicosis or pneumoconiosis due to silicious dust (the term "miners' consumption" is not recognized in the international classification) with tuberculosis, pneumonia or other intercurrent malady as the contributory cause. Not only will this make for more accurate death reports, but also it is a matter of justice to the miner and his family.

TREATMENT OF EPITHELIOMA BY THE ROENTGEN RAY*

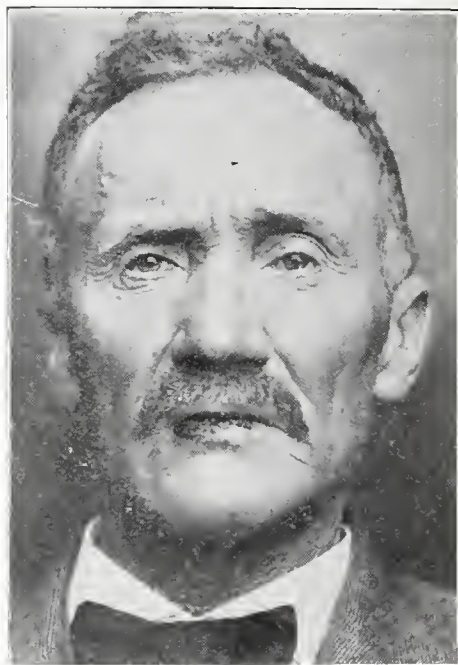
J. L. McDermott, M.D.
KANSAS CITY, MO.

In coming before you to speak on the subject of epithelioma, let it be understood to begin with that I have nothing to offer which has not already been more ably presented many times. If, however, I can stimulate some additional interest and consideration among the busy practitioners of our state regarding this disease, I shall feel that my paper has not been in vain and that the time required in reading it will not have been wholly lost to this Association.

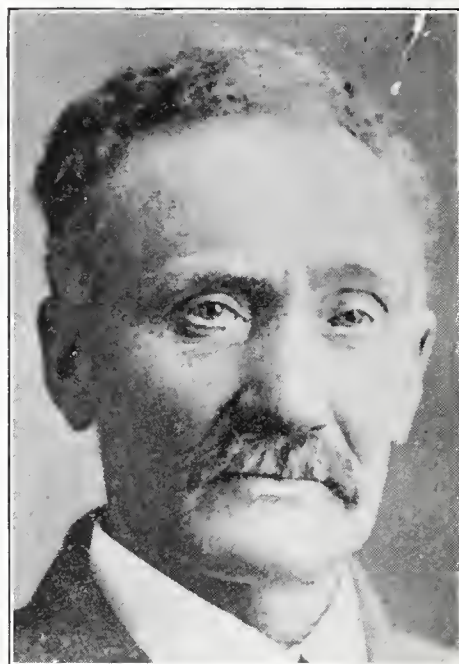
Epithelioma, or skin cancer, is, as the name suggests, an epithelial new growth proceeding from the epidermis of the skin and its glands. On account of the various phases which these growths manifest, numerous classifications have crept into the literature, but the most practical one, and the one most commonly used, divides the growth into the superficial, the deep-seated and the papillomatous varieties.

While the superficial type is relatively benign and runs a chronic course, its benign character decreases as its chronicity increases, and often after remaining in a quiescent state for years it suddenly manifests pronounced malignancy.

The deep-seated variety may develop from the superficial, or it may begin primarily as a nodule in the skin or subcutaneous tissue. Unlike the superficial, its growth is rapid and progressive, and it extends downward, upward and laterally. It shows all the ear-marks of malignancy early in its course.



Case 1



Case 1

The papillomatous variety, true to its name, begins as a papule, or wart, and in many cases as regards rapidity of growth and degree of malignancy occupies an intermediate position with respect to the other two varieties.

* Read at the Fifty-Eighth Annual Meeting of the Missouri State Medical Association, St. Joseph, May 10-12, 1915.

As to the etiology of epithelioma, we can submit only a few theories, all of which were evolved many years ago and none of which has as yet been proved to be the causative factor. Of these theories, the following appear to be the more substantial: first, senility, or senile changes; second, irritation, traumatic, chemical or toxic; third, infection; fourth heredity and environment; fifth embryonic displacements; sixth, climatic influence.

Many prominent investigators have supported each of the above-mentioned theories and have submitted strong arguments to support their claims, yet no single theory has been so thoroughly established that it will account for the origin of all these different types of epithelioma.

The changes in the skin due to senility undoubtedly predispose in many instances to epitheliomatous development. Many of you have observed senile keratoses and the various excrescences of the skin degenerate into true epithelioma. When we try to explain the evolutionary change which takes place when a seemingly benign growth becomes a malignant one, we find these etiological theories in conflict, and the question arises, must we attribute the malignant change to nutritional insufficiency, to overstimulation of cells, to toxic influences, to an infectious agent, or to a misplaced and imprisoned embryonal cell which has suddenly acquired an intoxicating substance that causes it to undergo hyperplasia and become a parasite which ultimately destroys its host; or shall we attribute these changes to a combination of all, or to a few of these? So far, no one has been able to answer this question positively.

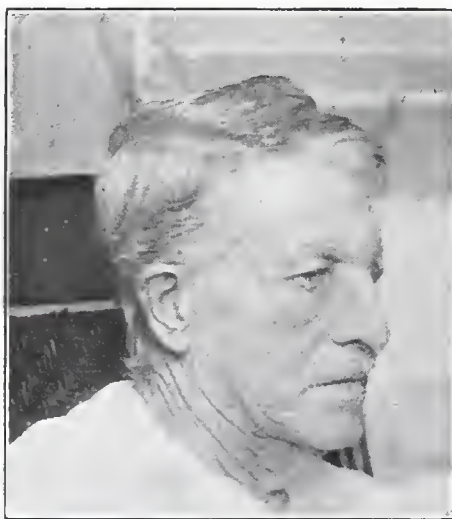
It is a matter of common observation, however, among men of large clinical experience that chronic irritation, whether of a mechanical, chemical or toxic nature, is a positive predisposing, if not a causative, factor in the genesis of this disease. In support of this statement, I direct your attention to the growths which so often develop about carious teeth, to the growths occurring on the lips and tongue of habitual smokers, to the buyo growths so prevalent among the Filipinos who chew the betel nut and the various leaves, to the growths so commonly seen among paraffin workers and chimney sweeps and the growths in those who follow other pursuits in which the workers are exposed to an occupational irritation.

Heredity and hereditary tendencies are deserving of some consideration in the discussion of this disease. While there is little or no ground for considering the disease directly hereditary, there is much to support the idea of a hereditary tendency. In my personal experience I have treated members of a family in which the father, eight sons and a daughter, were afflicted with epithelioma. The character of the skin of these individuals was thin

and harsh, and all were of a fair complexion. Occupation and environment seemed to have no influence on the disease in this family, as some were farmers, some did clerical work and the daughter did housework. The children lived apart, in separate homes, and had done so for several years previous to the appearance of the disease, which came on between the age of twenty-five and forty years in each individual of the family.



Case 2



Case 2

The literature gives many instances in which a father or mother died of cancer, and two or more of the children, inheriting the type of skin of the parents, in due time developed malignancy. These instances would suggest that there is a type of skin which is more prone to epitheliomatous degeneration than others. This type of skin, as we have observed it, occurs in blondes more often than in brunettes. The skin is usually harsh, dry and thin, sunburns, tans and freckles easily, possesses areas of telangiectasis and often the mouths of the

glands are coarse and plainly visible with some evidences of seborrhea and hypertrophic change.

To recapitulate the subject of etiology, whether senile degeneration, chronic irritation, heredity, climatic or other influences are predisposing or causative factors, or whether they simply prepare a fertile field for the implantation of some unknown infectious agent, must

except in the region of the mammary glands and the genitalia. On the face, a common site is the mucocutaneous junction, such as the inner and outer canthus of the eye, the lower lip and the alae of the nose. The next most common site is the cheek, the temple, the ear, the forehead and the neck. If the growth is of the superficial type or occurs in senile individuals, the lesions are usually multiple, and often they are so numerous that the patient is said to have the epitheliomatous habit. In the deep-seated and papillomatous variety the lesions are usually single.

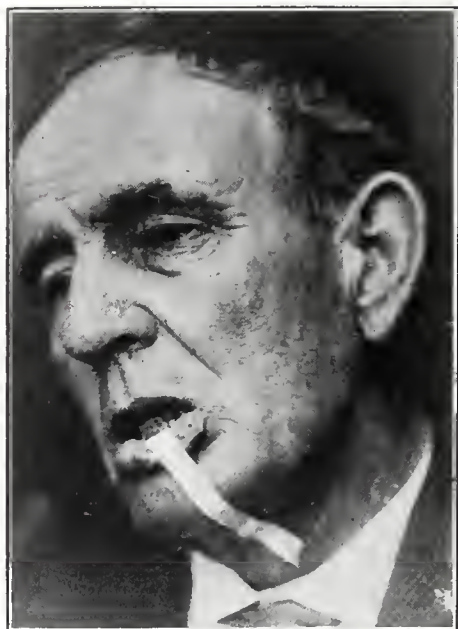
DIFFERENTIAL DIAGNOSIS

In making a differential diagnosis, the diseases which are most likely to be confused with epithelioma are syphilis and lupus vulgaris. In syphilis the primary lesion has its characteristic ear-marks. It is more or less acute with an accompanying glandular involvement and the appearance of the secondary rash following in from three to six weeks. The history of the case, the constitutional symptoms, the Wassermann test and a microscopical examination of the tissue will readily settle the diagnosis. Tertiary lesions are serpiginous and multiple, while the epithelioma is round and single. The former is accompanied by free purulent discharge, while the latter is attended by a scanty one.

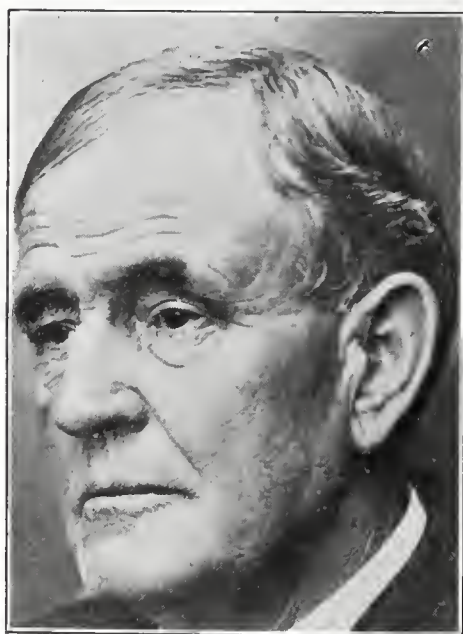
As regards lupus vulgaris, a disease somewhat rare in the United States, the history will frequently enable one to distinguish epithelioma from it. Lupus vulgaris usually begins in early life, frequently in childhood, while epithelioma begins after maturity. The lupus lesion begins as a soft, yellow tubercle or one of an apple-jelly color, the epithelioma as a scurfy patch, a papule or a deep nodule. Lupus lesions are shallow and multiple and spread in an irregular manner. The original lesion often partially heals spontaneously, leaving scar formation; the epithelioma is usually single, spreads uniformly, but not so extensively as the former and seldom heals spontaneously.

TREATMENT

Previous to the discovery and development of the Roentgen ray there were but two methods of treatment for epithelioma, namely, surgery and cauterization. In the present-day treatment, surgery still occupies a recognized place, but cauterization, especially by chemicals and pastes, has been largely abandoned, except by the charlatans and the laity. During the past twenty years, Roentgen therapy in this disease has made a phenomenal and progressive development and in the superficial type of epithelioma, the Roentgen therapy has superseded both surgery and medicinal agents. The reason for this is because the treatment is painless, the cos-



Case 3



Case 3

remain an unanswered question until scientific investigators establish beyond doubt the real cause.

The location of these growths is commonly on the exposed surfaces of the body, such as the face and backs of the hands. On the covered surfaces of the body, however, they rarely occur

metic results are perfect and a permanent cure is obtained when the treatment is properly administered. Within the past few years the Roentgen-ray dose has been made practical, and the use of filters for protecting the skin enables the roentgenologist to administer a dose several units stronger than was possible before these accessories were at hand.

Taking into consideration, therefore, the enormous advantages of measurement and filtration, I confidently look forward to reports of almost as many successful cures of the papillomatous and deep-seated varieties of epithelioma as have already been accomplished with the superficial type.

In a series of fifteen cases of epithelioma of the lower lip, I have encountered only one failure. This case was of a year's standing before being submitted to treatment, and while the size of the growth decreased 50 per cent. from fractional dosage, the patient refused the production of a heavy erythema dose, and because of this, I feel satisfied failure was due. The patient, however, still lives after two years, although charlatans have destroyed the entire skin tissue of the chin with the application of caustic pastes.

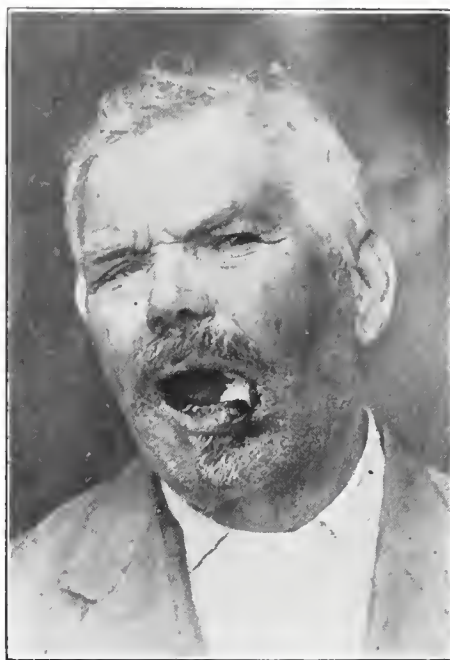
I have treated two cases of recurrent epithelioma of the lower lip following surgical removal. The first case recurred one year after operation. The patient was given six mild erythema doses and still remains well after an interval of two years.

The second case recurred two months after surgical removal and was treated by the fractional dose method. The period of treatment covered three months' time, in which a mild erythema of the skin was produced on three occasions. This patient has had no recurrence during a two-year interval.

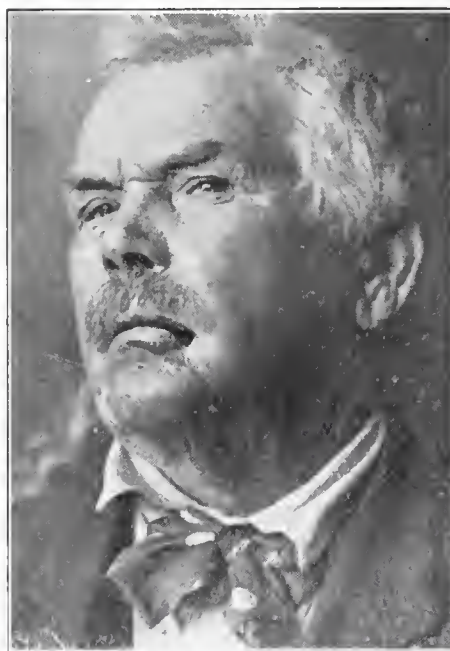
I have treated three cases of epithelioma of the lower lip recurring after the use of caustic pastes. Two of these cases were considered incurable. Massive dosage was administered and some blistering followed. The reaction subsided in one month, and complete healing resulted. No glandular involvement or local recurrence has resulted after one year. Although my experience is limited, I feel justified in making the statement that I believe all epithelioma of the lower lips, where glandular involvement has not taken place, can be cured by Roentgen therapy if the proper dose is given and careful technic carried out.

I have treated thirty cases of the superficial and papillomatous varieties, occurring on the face. The method of treatment in these cases consisted of daily exposures, for one week, or until a mild erythema was produced. A rest was then given until the reaction had subsided, which usually required ten days to two weeks.

These seances were repeated with increasing intervals covering a period of three to five months, depending on the extent and severity of the case. In this series I have had five recurrences in three years, all of which I feel satisfied were due to my inability to convince the patient further treatment was necessary to produce a



Case 4



Case 4

permanent cure, rather than to the fault of the technic.

With the perfection and simplification of dose measurement, I feel satisfied that the percentage of failure with Roentgen therapy will be considerably reduced, as the roentgenologist

will not be so exacting of his patient's time, only requiring him to submit to treatments every two or three weeks.

In the past, Roentgen therapy has been criticized and condemned by surgeons undeservedly.

Today, however, we note a change of attitude, and men like Rodman admit the efficacy of Roentgen therapy in epithelioma and are advocating postoperative irradiation in many types of malignancy. Surgery, to be sure, has its proper place in the treatment of all malignant conditions, and always will have, but we believe that more will be accomplished in the way of permanent results in the treatment of such cases if the surgeon and the roentgenologist will heartily cooperate with each other.

606 Commerce Building.

REPORT OF CASES

CASE 1.—J. E. S., 54 years old, farmer, married, healthy family.

Growth began three years before coming for treatment. For two years it remained stationary in size. During this time it formed scabs which exfoliated every two or three weeks. One year before beginning treatment the growth began to enlarge, bled slightly at intervals and became painful. On beginning treatment he complained of considerable pain and soreness in lower lip and jaws.

The patient was given four erythema doses during four months. Ulceration healed in eight weeks. Patient has had no recurrence in eighteen months.

CASE 2.—J. M., 72 years old, widower, healthy children, old soldier.

Growth began five years before coming for treatment. Was given some light roentgen-ray exposures, ulceration healed, recurring in six months. The patient was then put on specific treatment, mercury and K. I. pushed vigorously for four months, during which time ulceration continued to spread. Following this, various pastes were applied but ulceration did not heal.

The patient was given six erythema doses of ray. Ulceration healed completely three weeks after second erythema dose. Patient has had no recurrence in fifteen months.

CASE 3.—G. L. M., aged 63, carpenter. Carried nails in mouth for twenty years. Married, healthy family.

Smaller growth appeared on lip two years before coming for treatment. Larger growth involving mucous membrane began one year before beginning treatment. The smaller growth began as a crack, healing and ulcerating intermittently. Grew more painful as time passed. Larger growth on mucous membrane began as denudation which never healed. Gradually enlarged and became so painful patient could not sleep at night. Received no treatment except mild salves from family physician.

The patient was given four erythema doses of ray in five months. Healing complete in three months. No recurrence in two years.

CASE 4.—C. M., aged 69, farmer. Inveterate pipe smoker, married, healthy family.

Growth began as scaly patch. Exfoliated frequently, soon forming new scab, and slowly enlarging. Bleeding slightly at intervals. When ulcer attained size of 25-cent piece became slightly tender with an occasional darting pain. After ulcer had been on lip one year patient consulted a charlatan

who applied paste which caused a deep slough, leaving a permanent gap in lip. Three months after paste was applied patient came for roentgen-ray treatment. Growth had then extended to buccal mucous membrane. Ulcerated area swollen, painful with very foul odor.

The patient received five erythema doses of ray in five months. Ten days after first erythema dose pain subsided and odor disappeared. Ulceration healed completely ten weeks after beginning roentgen-ray treatment. Patient has had no recurrence in two years.

DISCUSSION

DR. WILLIAM FRICK, Kansas City: In regard to the exciting cause of epithelioma I will say nothing, because it seems to me that we know nothing and we had better let the research laboratories fight it out and try to discover just what is the real cause of the disease. The division the doctor made is the usual one made in discussing epithelioma.

The superficial type of epithelioma is, I think, the one that is treated par excellence with the Roentgen ray. It has shown itself very capable in these cases, and the proportion of cures is as great as under any other form of treatment. The cosmetic results are far superior to those obtained by other methods, such as caustics, and I think that caustics should never be used. Roentgen ray is better than the knife, for although you may do a very fine plastic operation, you are very likely to leave some sort of scar in these cases. But with the Roentgen ray, even when there is considerable ulceration about the face, you will find there is practically no scar left, or so little that you hardly notice it. I have some patients who were treated ten or twelve years ago and they have remained well and the scar seems to continue to grow lighter for a number of years. Some of these patients had deep ulcers and yet the scar is so slight that it can hardly be noticed. In one case recently, in a man over 85 years of age, there was a large ulcer on the cheek, quite deep, with elevated edges, with a foul discharge. That is all healed over now and there is a smooth surface, and you would be surprised to see how little depression there is remaining. Another man, not quite so old probably, came to me three years ago. He had an ulcer even larger than that on the side of the neck. He had been operated on, not by the knife, but by caustics, some time before and this was a recurrence. I gave him very little hope and promised him very little from the Roentgen ray, but he said he would not be operated on at all by the knife and there was nothing left to do but to give him the Roentgen ray. We gave him the Roentgen-ray treatment and we gave it to him conscientiously, though not a very great deal either because he was not in very good health. We saw that the ulcer promptly began to heal and it did heal perfectly. I saw him a short time ago and that ulcer was so well healed over that you would not have known that he had ever had an ulcer. There are also some cases which can be cured quickly by the use of the carbon dioxid snow. Some of these very superficial lesions which you question sometimes whether they have really become epitheliomatous, are often cured by the carbon dioxid treatment. There is a good result, a nice, soft scar, with one application, where it requires repeated applications of the Roentgen ray.

DR. RICHARD L. SUTTON, Kansas City: I wish to say just a word respecting the classification of the so-called epitheliomata. I believe the term epithelioma should not be employed at all. While it is true that Stelwagon and other of our dermatologic authorities employ it now, in the course of time these men will

come over to the new classification of these growths, and ultimately we shall have a standard, pathologic classification. Aside from the pigmented carcinomata, which until very recently have frequently been confused with pigmented sarcomata, we have three principal types of carcinoma of the skin—the squamous celled, the basal celled, and the tubular growths, which involve the skin secondarily. The diagnosis and prognosis are entirely dependent on the character of the lesion, and to block all of the lesions under the single heading of “epithelioma” is far from scientific. I enjoyed the doctor’s classical presentation very much indeed, and I agree with him that, inasmuch as some of the best dermatologists in America discuss the subject under the general heading of epithelioma, there is no reason why men who are doing only Roentgen ray work should not do it. With regard to the prognosis in cancer of the skin, we know that the so-called basocellular carcinomata are the simplest and most benign of all, and that they will respond promptly and favorably to any of the recognized methods of treatment. Thorough curettage, followed by a caustic, is the most rapid plan, and is as satisfactory as any. In growths of the prickle-celled type, the best of all methods is radical excision. If it is possible to secure a good cosmetic result, excision should be practiced in every instance. The same holds true with tubular carcinomata, in which the skin is involved secondarily. Recently I have been employing radium in the treatment of the superficial growths, both the basocellular lesions and the prickle-celled growths which were not amenable to operative measures, and the results have been extremely satisfactory, in fact so much so that I have almost discarded the Roentgen ray. Formerly I kept two coils going nearly all day, now I use only one, and that for the treatment of cases in which the affected areas are extensive, so extensive as to render treatment with radium impracticable. The cosmetic results are exceptionally good. I have never been able to secure satisfactory results in prickle-celled carcinoma of the lip, with either Roentgen rays or radium, and I should advise anyone who is suffering from cancer of the lip to consult a good surgeon and consult him at once.

DR. J. L. McDERMOTT, Kansas City (closing): There is one thing I would like to emphasize: that is the recognition of these cases in their incipient stages and proper treatment instituted at once. This treatment, whether it be surgery or the Roentgen ray or radium, should be given thoroughly; and I think if the treatment is followed out we shall have better results in the future than we have had in the past. I wish to call attention to the use of caustic paste on the lower lip and on the various portions of the face. This treatment causes a great deal of scarring. I have in mind now three cases that had the lower lip destroyed and the condition of the patient had been rendered much worse than it was before the paste was applied. A continuous stream of saliva flows from the mouth in two cases, and in one case there is a hole about as large as a quarter at the alae of the nose with a little flap of lip still connecting underneath, the roots of the teeth are bare and necrosis of the alveolar processes has taken place. The only thing for this man is a plastic operation to fill up this hole; otherwise his appearance will be obnoxious to every one, and the patient will be in a much worse condition than if he had allowed the epithelioma to go on. After the application of paste we find recurrences a great deal more often than after surgery. This is because the person who applies this paste cannot distinguish where to apply it or how much normal skin to destroy outside of the supposedly diseased area. Unless the complete destruction of all the malignant cells is brought about, recurrence is sure to take place.

WHAT THE ST. LOUIS MEDICAL SUPPLY DEPOT OF THE U. S. ARMY IS AND WHAT IT DOES

LIEUT.-COL. THOMAS U. RAYMOND, M. C., U. S.
ARMY
ST. LOUIS

I esteem it an honor to have extended to me this opportunity to address a few brief remarks to you on the subject assigned to me, namely, “What the St. Louis Medical Supply Depot Is and what It Does,” and I shall make an effort to condense in a few words the essential points which appear to me as of possible interest to you.

We all know, I think, and appreciate the fact, that the adequate supply of an army is an absolute and indispensable necessity to a successful campaign. This supply may relate to rations, or ammunition, or clothing, or medical supplies, and while the relative importance of these various supplies may be a matter of difference of opinion and perhaps argument, there can be no question of the great importance of any one, or in fact of all of them. We may therefore rightly assume that medical supplies are of great importance to an army in the field and that a deficiency in such supplies will to a greater or lesser extent, depending upon the degree of such deficiency (but always markedly), materially influence the ultimate result of military operations. To enable an army to do effective work men must be kept on the firing line, and the prime reason for the being of the medical department of an army, including its supply division, is to keep men on the firing line by keeping them in their original condition of physical fitness or by restoring them to such condition in the shortest possible time should they have become unfit by reason of either wounds or disease. No well-informed and experienced military commander will, I think, endeavor to belittle or minimize the enormous service which the medical department renders to an army in time of war, nor refuse to concede that an efficient medical department is entitled to a generous share of credit for the successes attained by any modern army in the field. There are of course many agencies embraced in the term “medical department,” and they each have their individual importance, but the beneficial work of many of these agencies could be practically nullified (certainly in a very short time), were the supply department to fail in the duties devolving upon it. I therefore feel justified in asking you to accept as a fact and to bear in mind the importance of the medical supply department, which in our service at least manifests its presence and performs its functions through what are officially

known as medical supply depots. These, in brief, are storehouses of greater or lesser capacity, located in several of the principal cities, and one of these, located in your own city, is the specific subject of my remarks tonight. A description of its general functions and duties would apply with equal accuracy to the general functions and duties of any other.

Your own supply depot was established in your city many years ago, dating back to about the time of the Civil War. It was formerly located in the older business district on Wadingham Alley, and later on at 612 North Second Street, and still later on the levee at 500 North Commercial Alley. About 1902 the depot was removed to its present location at 204-208 South Eighth Street, where it occupies a five-story and basement building having a frontage of 50 feet and a depth of about 120 feet. This building contains a large supply of articles of every description required for the care of sick or wounded—such as hospital furniture, bedding and clothing, surgical instruments and appliances, medicines and disinfectants, articles of special diet, etc. Some of these articles are obtained by transfer from other depots, but very many are purchased here in your own market. From this depot supplies are distributed direct to many military posts and stations on request of the respective surgeons at those stations, and in this manner the supplies are brought directly in contact with the particular troops needing them. This is the system followed in peace times. In this manner at the present time your depot supplies practically all military posts within a radius of several hundreds of miles southeastward and northeastward, and perhaps 1,000 miles northwestward, westward, and southwestward, including all military stations and camps maintained along the Mexican border. Supplies even were shipped from your depot as far as Vera Cruz at the time of its occupation.

Some also are shipped at times to San Francisco, to Hawaii and to the Philippines. Likewise the medical supplies of the militia of many states are supplied to them from this depot. The United States government, under certain conditions, assists the individual states in the maintenance of their militia and the Congress yearly makes an appropriation of money for this purpose. The funds so appropriated are held on the government books in Washington as a credit to each state and against this appropriation is charged the value of any supplies issued by the general government to the various state's militia. For instance, if a state desires a field hospital for its militia one is issued to it, perhaps from your medical supply depot, and a charge to the amount of its value (say approximately \$2,000), is entered as a debit

against the militia appropriation of that state. After such a field hospital has been in use by the state militia for perhaps three or four years (in state encampments, maneuvers, etc.), it is often found to have deteriorated considerably in many respects and to be sadly in need of rejuvenating. Under such circumstances the whole field hospital is turned in to your depot and there carefully gone over and restored to its original condition of full serviceability, full credit being given to the state for the value of such hospital, but the expense involved in renewing it being charged against the state.

Under such conditions the renewed hospital again becomes the property of the general government and is held in storage for possible future issue either to the same state or to another state. Other supplies are issued to the militia of the various states in much the same manner.

In case of war involving the presence of large armies in the field, what are known as advance medical supply depots are organized; these are located within the zone of operations and near to the troops, and under these conditions supplies which have been purchased or otherwise acquired by your supply depot are transferred in greater or lesser bulk from time to time to the advance depots and by them distributed to their related troops. This method serves to maintain a fairly large and adequate supply at the front to meet immediate needs and possible sudden emergencies.

Your supply depot is now and always has been in charge of an officer of the Medical Corps of the Army, habitually and usually of the rank of major or higher, it being at present rated as a colonel's detail. The duties of such an officer I do not regard as onerous, but they are important and responsible and worthy of painstaking fulfillment, and an efficient officer in a medical supply depot can secure results far and beyond what one less earnest or less imbued with the necessity of a definite amount of personal supervision over affairs in his charge could hope to attain. Such officer is charged with the purchase of many supplies and the disbursement of considerable sums of money on behalf of the government, with maintaining an adequate amount of the various supplies on hand in order that he may promptly meet requisitions made on his depot by the surgeons of posts; and with the actual issuing of such needed supplies to the posts.

In your own depot he has under him to effect these results a force of sixteen men (all civilians and all civil service appointees), who perform all the various duties, such as clerks, accountants, packers, laborers, etc. The labor involved in all of the foregoing is not by any means small, and there are constantly arising

many details which must necessarily be brought to the personal attention of the officer in charge and by him determined. When supplies are needed in large quantities they are publicly advertised for and bids for same are oftentimes received from firms located in cities all the way from New York to San Francisco. In other words, competition is invited and all dealers are given a chance to sell, but delivery must be made at your medical supply depot in St. Louis, so that dealers in St. Louis who either have stock on hand or can obtain such stock in your home market, whether by purchase or by manufacture, would seem to have a slight advantage over other dealers elsewhere. When only small quantities of supplies are needed they are simply purchased outright in your home market if available, purchase being made at current market rates.

The other medical supply depots of our service are located, one in New York City, one in San Francisco, and one in Manila, P. I.; besides one for purely field medical supplies located in Washington, D. C. This latter depot handles solely supplies of a character suitable for troops in the field as distinguished from troops in garrison, there being a marked difference in the character of these two classes of supplies owing to the difference in conditions under which such troops are serving. Many articles are properly allowed to troops serving in garrison which would prove only useless incumbrances to troops serving in the field under onerous and stressful conditions and with more or less meager transportation facilities. On this account we very properly have an authorized list of post medical supplies and one of field medical supplies.

Two of our five depots carry and distribute dental and photographic supplies, namely, the New York depot and the Manila depot. The others do not. This arrangement is simply one of convenience and economy. Dental supplies are needed for the use of our dental surgeons, sixty of whom are now authorized for our army. Their services are free to officers and enlisted men for all ordinary dental work required to keep the teeth in a reasonably serviceable condition (gold and bridge work not being included), and the supplies necessary for this purpose are furnished free by the government.

Photographic supplies are needed because under existing orders it devolves on the Medical Department of our Army to photograph every recruit at the time of his enlistment (both front and side view), as well as to take his finger prints and prepare a figure card showing all of his identifying scars and marks.

Incidentally I might mention in passing that the actual enlistment of every soldier today is

effected by the Medical Department and each man is vaccinated against smallpox and to each is administered the typhoid prophylactic.

Two of our depots also carry in storage and issue when needed, field medical supplies as well as post medical supplies—these depots being St. Louis and Manila.

The main body of field medical supplies for special use of troops in case of war is held in reserve in the Washington Field Medical Supply Depot, and I am not prepared to say for what number of men such supplies are adequate, but the St. Louis depot holds in reserve in three storehouses at the old St. Louis Powder Depot enough of such field supplies for several divisions of troops, and the Manila depot holds enough for at least one division.

As supplies of all kinds, and especially many of the essential supplies for an army, are likely to be very difficult to obtain, especially in large quantity, under the stress of war conditions—this fact having become glaringly apparent under the present war conditions, even though the war itself be in Europe—it would seem no more than the part of modest prudence to look ahead a small bit in time of peace and provide ourselves with a reasonable reserve, as such forethought (particularly in the case of the medical supply of the army—with which we are concerned), may be found in case of some dire emergency markedly to conserve the lives of our people and perchance even affect their liberty and happiness.

We are none of us too good as guessers (or diagnosticians, as we are pleased to call ourselves), even when our fingers are on the patient's pulse, and certain facts, more or less definite, are right under our noses. How can we, then, or anybody else, believe that we are able to foretell the future or render a true prognosis of world events? Were that possible we would all be omniscient clairvoyants.

None of us know what the future has in store for us, either as a nation or as individuals, and in these rapidly changing times it certainly seems the part of only moderate wisdom to take reasonable precaution to ward off disaster, perhaps only dimly perceived but nevertheless entirely within the range of possibility.

Would any one of us be so improvident and so void of common foresight as to start from St. Louis to Boston, say in midwinter without an overcoat, merely because the weather in St. Louis was mild and open and no storm had been forecast? I opine not, and yet we seem to hesitate to throw around ourselves reasonable precautions and safeguards against evils which may envelop us in the future because they are not at this moment clearly foreseen.

204 S. Eighth Street.

MEDICAL PREPAREDNESS*

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In preparing this paper I have been somewhat at a loss to decide what phases of the subject might be of most interest and appropriate on this occasion. So if what I have to say appears to be technical and somewhat tiresome, I hope that it will at least be the means of bringing out in the discussion some things that will be not only interesting, but will aid and assist in bringing about that state of preparedness so essential for the efficient care of the sick and wounded when the army will have been ordered to defend and uphold some of the great principles of our government.

In time of war, for administrative purposes, the activities of the military establishment embrace:

1. The service of the interior.
2. The service of the theater of operations.

The service of the interior includes the department commanders and bureau chiefs, controlling the general supply depots, general hospitals, arsenals, camps of mobilization and concentration, ports of embarkation, the organization, production and distribution of supplies and necessary material for the field forces.

The service of the theater of operation includes the line of communication and the zone of advance.

Every large force operating from a base has its line or lines of communication whose function is not only to forward troops, supplies, information, etc., but to relieve the combatant forces as far as possible from every consideration except that of defeating the enemy. In the zone of advance we have the mobile forces organized into divisions, field armies, etc., with their trains and special services, such as the supply service, the ammunition service, and the sanitary service.

The value of the sanitary service from a military standpoint in time of war depends on its ability to prevent diseases by sanitation and early treatment of beginning diseases and minor complaints; by maintaining the maximum physical efficiency of the troops and by relieving the army of the encumbrance of the sick and wounded.

In the military campaigns of all the great wars of the past, the transportation and handling of the sick and wounded has always presented a most difficult problem, one which was never satisfactorily solved. In many instances the wounded have been left unattended on the battlefield for days and nights. Armies have been crippled and some have met with defeat on account of this encumbrance.

The plan adopted by the medical department of the army provides for the following sanitary units with the mobile forces operating in the zone of advance:

1. A regimental personnel and equipment.
2. Ambulance companies.
3. Field hospitals.
4. Stations for slightly wounded.
5. Reserve medical supplies.

On the line of communications, we have: Transport columns, evacuation hospitals, hospital trains, medical depots, base hospitals, subsidiary camps and rest stations.

Beginning at the front we then have the regimental personnel, which consists of a certain number of medical officers and hospital corps men attached to each regiment, who care for the sick of the regiment on the march and in camp, transferring them when necessary to the field hospital. During an engagement they stay with the regiment, establishing the regimental aid station. These stations are established just as soon as the casualties require more attention than can be given them on the firing line. These first aid stations are not elaborate; they act as collecting places for the wounded, where they will be protected from the fire and where further dressing and treatment, if needed, can be given and the transportation to the rear facilitated. The location should be as near the front as reasonable safety will allow, and a medical officer should be present to give treatment and surgical supervision.

There are four ambulance companies to a division and each company has five officers and eighty-three men, with ambulances, field wagons, pack mules and travois. The ambulance companies establish the dressing stations, transport the wounded by means of litters, travois and ambulances, from the regimental aid station to the dressing station, then back to the field hospitals, and after engagements, they may be used to evacuate field hospitals. They furnish ambulances to accompany regiments on the march, and all ambulance service required when in camp. The sick and wounded falling out on the march are picked up by the ambulances and when camp is reached are turned over to the infirmaries or to field hospitals. There is a director of ambulance companies with a division who is directly in charge of the four ambulance companies.

There are three field hospitals to a normal division. Each hospital has six officers and sixty-seven men and requires eight field wagons for transportation. It is a mobile organization and not intended to be used as a permanent hospital. It is theoretically capable of caring for the sick and wounded of a brigade. It will accommodate 216 patients, supplying each with bed-sack, pillow-sack, blanket, rubber sheet, pajamas and towel, and also has utensils for

* Read before the St. Louis Medical Society, Jan. 15, 1916.

feeding. It has a fairly elaborate medical and surgical equipment, and if it is desired for any reason to make it a more permanent one, there can be brought up from the reserve supplies, furniture and bedding units, containing cots, mosquito bars, etc.

With the division the ambulance companies and field hospitals generally march in the rear of the field train; if an engagement is imminent, one ambulance company (less wagons and ambulances) follows each brigade; that is, the litter bearers and pack mules with the equipment for a dressing station. In camp the ambulance companies and field hospitals are parked near each other, the guards for the field hospital being furnished by the ambulance companies.

The sanitary troops of the division are usually under the immediate control of the chief surgeon, who has two medical officers of the division, one a director of field hospitals, the other a director of ambulance companies, to assist in carrying out the directions regarding the establishment of field hospitals and the disposition of the ambulance companies and their dressing station parties. Before an engagement there is usually an opportunity to formulate some scheme for the care of the wounded. The chief surgeon should be made acquainted with the plans of attack or defense and the probable position of the contending lines, and he should possess a general knowledge of the topography of the area of operations, gained by actual acquaintance with the country or by study of the maps in his possession; he will then be in a position to advise with the commanding general as to the disposition to be made of the sanitary organizations and the provisions for the transportation of the wounded.

The special qualification required is the ability to secure and transport the sick and wounded promptly and to give them proper care and attention until such time as they can be transferred to an immobile sanitary institution in the rear.

During the fighting there can be very little done by the regimental sanitary troops on the firing line. Most of the work will have to be done during lulls in the fighting, at night or after an engagement. The surgeon should consult with the regimental commander as to the time and plan of establishing the first aid station and as to the disposal of the wounded, should it become necessary to leave them behind.

The regimental aid service has become of much greater importance under modern conditions of warfare. Not only because it is now more difficult to approach the line of battle from far in the rear, owing to the increased range of the weapons, but principally for the reason that much greater good can be accomplished by modern surgical methods of preventing infection by

prompt protective dressings, which ultimately results in saving a large proportion of trained men for further duty at the front. The benefits to be derived from prompt and proper wound treatment both from a military and a surgical standpoint are now considered to be of sufficient importance to warrant the sacrifice of some sanitary personnel, and casualties are bound to occur among them if they perform the full duty demanded. Protection from the enemy's fire is the first and most important consideration in the selection of the location for an aid station. If the ground affords proper cover, the nearer the front the better. It would, of course, be advantageous to have shelter and water and to afford convenient access to the dressing station in the rear so that the ambulances could approach and remove the wounded. The amount of work that can be done at this station depends on the type of the engagement. The principal thing is to assemble the wounded and prepare them for transportation to the dressing station.

The dressing station is the second place of assistance and is established by the ambulance company. There is one to each brigade; here the wounded are brought from the first aid stations. Their dressings are readjusted, they are given stimulants, if needed, and something to eat, as a little soup, chocolate or malted milk, classification of the cases and the records begun. The professional attention to be given here depends largely on the number of cases to be handled, but at least that much should be done. If the situation permits, much more can be done at this station in the way of emergency surgery. Litter bearers are sent out from this station to make contact with the regimental aid stations. Just as soon as the dressing station is established the regimental surgeons are notified of its location and they in return communicate the location of their aid stations. The number of cases treated will be much larger here than at the aid station, therefore better cover and larger space will be needed. Some shelter is necessary for the dressing and operating department and also for the wounded awaiting attention. The tentage allowed an ambulance company is not enough for this, so if buildings are not at hand efforts must be made to improvise it out of blankets, shelter halves, etc. The convenience of access from the front and rear are important, so, if possible, it should be located on a well-known road, as near the front as the situation will permit, protected from the enemy's fire, where water and fuel are accessible. The roads leading to it should be conspicuously marked with Red Cross flags. The site of location and the time is designated by the chief surgeon through the director of ambulance companies. The terrain may offer sufficient cover, so that the ambulance companies can advance to

within a reasonable distance, and there await an opportunity to establish, or on the contrary from the exposure to overshots they may have to wait for a lull or until the tide of battle temporarily shifts to some other part of the field, before they can get to the required position.

The paramount consideration which governs the location of the dressing station is the location of the wounded. They must be reached and given attention irrespective of the conditions under which they lie. Questions of terrain, transportation, are wholly secondary, and give rise to problems which must be solved after those of collection and sanitary relief have received attention.

Field hospitals are mobile organizations and their usefulness depends on their mobility. They must be speedily evacuated or replaced by new ones. Whenever possible, field hospitals are brought up from the rear and established in the vicinity of the wounded who will be transported just as little as possible. The capacity furnished by the three field hospitals is so much below the actual requirements of a division in battle, attended with moderate losses, that the greatest care should be exercised in their use. The indiscriminate use of these institutions for the care of the sick on the march or in camp, which immobilizes them for the time being, might be followed, in case of sudden and unexpected movement, by serious consequences in that the already insufficient provision for the seriously wounded would be further reduced. These units are for the use of the wounded, and to divert them, except in case of great emergency, to other purposes is liable to cause embarrassment. Emergencies may arise that will require them to be used as shelter for the sick, but such use should be exceptional and only when the line of communication has been interrupted. The personnel may be used when no engagement is in prospect for temporary duty with collecting stations for sick and at hospitals in the vicinity. Opportunities may occur, especially in planned battles, when field hospitals may perform both the duties of the dressing station and its own and receive wounded directly from the firing line. So far as practicable, only one of these units will be established at a time having the others free of patients. As soon as an engagement is imminent these field hospitals are moved rapidly to the front to the locations selected by the chief surgeon. If the military situation permits, this point should be reached before the necessity for erecting the hospital arises. The location is beyond the range of rifle fire; buildings in a town or village are preferable to the tentage and should be used; churches or barns in the country may be utilized for the same purpose. The shelter and resources of the town would be of great advantage whenever it became neces-

sary to enlarge the capacity of the hospital. This is to be expected when we consider that if all three of the hospitals of a division were in operation, if the division sustained a loss of 10 per cent. casualty, each would have to take care of about 400 patients. Access to a railroad or a navigable stream would aid the evacuation of the wounded to the rear. If unusual delay occurs in turning over the patients to the sanitary service of the line of communications, temporary arrangements should be made with civil hospitals of the locality, if possible, to care for them temporarily. If the evacuation hospital is brought up a section of that can replace the field hospital and sent to the front. In deciding on the location of this hospital the number of wounded to be cared for, the distance they are to be transported, and the facilities at hand, are all to be considered. In a planned battle, when the locations were made before the engagement begins, it no doubt would often be advisable to locate them near the dressing stations, behind defensive positions, in places well protected from the fire. After a victorious engagement the hospitals that have not already been established, should be located at convenient points near the dressing stations and field of losses, paying due regard to the evacuation facilities.

Field service regulations provide for a station for slightly injured, to be designated by the commander if possible; otherwise, by the chief surgeon. These collecting stations are established, one for each division, for the reception of wounded that are able to march some distance and who do not require immediate hospital care and treatment. It is a transient divisional organization on the battlefield and has no permanent personnel or fixed equipment and keeps no records. This provision for care of the wounded is apparent in view of the limited capacity of the field hospitals allowed. The supplies will be obtained from the reserve medical supplies or field hospitals, and the personnel from the regimental service of the division. Its function is primarily to relieve the dressing station and field hospitals of an exceedingly troublesome class of cases and serve as an intermediate station to the hospitals in the rear. It may also serve for the reception of such sick and exhausted as are unable to continue at the front but who after rest and refreshment may proceed to the rear on foot. The cases that have not passed through the hands of the regimental surgeons will be given diagnosis tags, which may be considered as passports to the rear. At these stations the malingerers and such others with minor injuries and illnesses as are deemed able, will be returned to their organizations at the front.

Just as soon as the cases have received the necessary attention and rest they will be sent

back to the evacuation hospital; and those returned to duty will be sent to the front. They should be several together and sent under a noncommissioned officer, who should be given specific directions as to the route and destination.

It will usually be practicable to choose a location for this station before an engagement begins and to announce it in battle orders. It is quite important that the regimental officers should know the position of this station and the roads leading to it, so that the slightly wounded can be sent directly there from the firing line; otherwise, they will drift into the dressing stations and field hospitals, overcrowding them and requiring attention which will consume time that should be spent with the seriously wounded. Not only this, but before they can be forwarded they may require food and medical supplies which may also be needed for the more seriously wounded. There is usually no difficulty in selecting a location for the collecting station for the slightly wounded, as the question of distance is not so important. It should be within convenient reach from the front, out of the danger zone, on well-marked roads, and preferably at the junction of the roads from the front. Whenever possible, a large building should be selected for it. It should be some distance from the dressing stations and field hospitals, to prevent as far as possible the demands they will make on these institutions. It is estimated that about 15 per cent. of the wounded will be able to march to these stations and on back to the advanced base. I believe, that in the recent war between Russia and Japan the percentage of these cases, as given, was much higher than this; but based on the estimate given, in a serious engagement, one of these stations would receive from 200 to 500 of slightly wounded from a division.

The reserve medical supplies are movable depots, one to each division. It has a personnel of one officer and seven men. Its function is to furnish hospital supplies to the sanitary units of the division.

Beginning on the firing line, the wounded are collected at the first aid station, taken from there to the dressing station, then back to the field hospital, from the field hospital to the evacuation hospital on the line of communication, thence back to the base hospital.

In this résumé I have tried to give you an idea of the working out, on the field, of our plan for taking care of the sick and wounded.

Less than eighteen months ago the whole world was amazed when it began to realize the awfulness of that gigantic conflict that was just beginning to be waged in war-stricken Europe—but even then no one ever dreamed of the extent of destruction or of the millions of wounded to be cared for. Many new features

in the plans of attack and defense have been evolved during this conflict by the combatant forces, but so far as we have been able to learn, with the exception possibly of the character of first aid given in those cases engaged in trench warfare and the use of the automobile ambulance, nothing has been evolved in the sanitary service that will materially change the plans we have outlined tonight.

It might be of interest to state that an army of 100,000, five divisions, in the field will require a sanitary personnel of about 760 medical officers and 8,000 enlisted men. That number does not include the medical officers needed at the general or post hospitals, recruiting depots, camps of concentration and mobilization, ports of embarkation, or any part of the service in the interior. We have in the medical department of the army today about 444 medical officers and 4,000 enlisted men; in the medical reserve corps on the active and waiting list about 1,400 medical officers.

EXPERIENCES AT A MILITARY TRAINING CAMP*

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ST. LOUIS

The Medical Reserve Corps of the U. S. Army was created by act of Congress in 1908. It consists of a so-called "active list," the members of which replace the contract surgeon, of which there are now very few, and of the "inactive list," which consists of some 1,300 physicians¹ in various parts of the country. Up to the summer of 1915, the members of the "inactive list" received no military training whatever. When looking at our beautiful parchment commissioning us as officers in the U. S. Army, we often asked ourselves such questions as: "What does the inactive list of the Medical Reserve Corps really mean?" "What function would it perform in time of war?" "Of what service would a body of medical men untrained in military matters be to the government in time of war?" Many of us felt that to hold a commission as officer in the U. S. Army, without any military training, was quite an honor but somewhat of a joke. Efforts had been made, especially by Dr. Henry C. Coe of New York City, to procure for the members of Medical Reserve Corps some sort of military training, but these efforts had not been successful. This was no fault of the Surgeon-General, or of the members of the Army Medical Corps. These gentlemen have always shown a readiness to cooperate in this matter, and have done what was in

* Read before the St. Louis Medical Society, Jan. 15, 1916.
1. At the present time over 2,000.

their power to bring about this end. The trouble lies in the wording of the Medical Reserve Corps Act, which provides that members of the "inactive list" may be called into active service only in an emergency, and training at a military camp can hardly be construed as an "emergency" under the meaning of this act.

Again, since our commission in the U. S. Army deprives us of the privilege of "influencing" legislation relative to army matters,



Fig. 1.—General view of Camp McCoy. The Red Cross displayed below the Stars and Stripes. At the last note of "retreat" the flags are lowered and replaced by a green lantern.

we have been powerless to do anything in the matter. All that we can, or could do, was to make suggestions to the proper authorities. When the matter of bringing officers of the Medical Reserve Corps together in training camps, such as are provided for the officers of the state militia, was suggested to the secretary of war through the Surgeon-General, he heartily approved of the idea, but doubted its applicability, because there were no funds available to defray the traveling and other expenses of the members who might attend these camps. When some 300 physicians expressed their willingness to attend, defraying their own expenses, he was highly gratified. The success of this first experiment will probably broaden the idea, and it is hoped that in this year's army appropriation bill funds will be provided to reimburse the officers in attendance at these camps for their actual expenses in the future. While it does not seem entirely right that we should train ourselves for service in the Army at our own expense, I believe that every officer who attended these camps felt that it was time and money well invested. Personally, I never before enjoyed a vacation (for it was a vacation) so much as I did the week at Camp McCoy. The fresh air, discipline and good fellowship, gave one a feeling of exhilaration, a good appetite and sound sleep, such as we seldom enjoy.

I perceived my first intimation as to how ignorant I was on military matters when I began to equip myself; such words as blouse, canteen, meat pan, haversack, etc., were entirely new to me, and the idea of wearing a woolen shirt in midsummer was rather repulsive until I found out how really comfortable it was. In this connection I might say that it has been suggested to abandon cotton uniforms altogether, as it has been found that soldiers do better, even in the tropics, when equipped with wool uniforms.

Camp McCoy is on a government reservation near Sparta, Wis., on what was probably at one time the bottom of a lake. The ground is almost pure sand, covered with thin grass, multitudes of flowers, especially sand roses, pines and scrub oak. The days were quite warm, but the nights delightfully cool. There are a number of mess shacks on the ground, numerous shacks containing shower baths and a number of McCall incinerators. There is a pumping station and water tank on the reservation and the water, pumped from an artesian well, is of excellent quality. Fort Robinson, 2 miles distant, is another camp used for artillery practice.

There are a number of things which impress a civilian who visits a military camp for the first time. The first of these is discipline. Everything moves smoothly and systematically, without friction, without much ado, and contrary to what many civilians imagine, one hears no swearing or boisterous language among officers



Fig. 2. An Officers' Street. Quarters for student officers.

or men. (According to army regulations it costs an officer \$1 every time he swears, while a soldier may enjoy the same privilege for 16 $\frac{2}{3}$ cents and a day in the guard house.) It is this very discipline which our American youth so sorely needs and which, to my mind, is the most potent argument for a not too long period of compulsory service. Another thing quite apparent is cleanliness and order. Flies are very scarce, and anything on which they may feed or breed is promptly removed or destroyed.

Kitchen garbage, including dish water, is destroyed in pits filled with stones on which a fire is built long enough before the meal to thoroughly heat the stones, so that liquids poured into the pit are evaporated and the solid part placed on top is burned. Not an empty tin can is allowed to leave the camp before it has gone through this garbage incinerator, so as to burn off any remaining particles of food. Ice boxes are built into the ground and must be scrubbed



Fig. 3. The Camp Bugler. (Three junior officer's tents in background.)

every day, once a week with lye. If flies congregate at any place on the ground it is evidence that garbage has been spilled and this spot must be spaded. The manure at the picket line is burned daily. Human excreta are disposed of in various ways; at this particular camp by means of the, now obsolete, McCall incinerators. The medical officer is most concerned about the food and water which the soldiers consume, and the disposal of garbage and excreta, because the ever-present fly carries contagion from one to the other, even though, whenever practical, the mess kitchens are screened.

This being a camp of sanitary troops, the medical equipment, of course, was very complete. The operating room for instance, which was part of the field hospital, and contained in a small tent, was so equipped that major operations could be aseptically performed day or night. The laboratory equipment, also part of the field hospital, contained, among other things, a high power microscope with a com-

plete set of slides, stains, etc., as well as a urinalysis set and a set of reagents for making water analyses. At every military camp or barracks a so-called prophylactic station is maintained. Here a sergeant from the hospital corps is stationed day and night, who administers prophylactic treatment, keeping a record of the soldiers who are treated, as well as the date and hour of treatment. Should a soldier develop venereal disease and his name is not found on this record he is court-martialed. By this means the prevalence of venereal diseases in the army has been greatly curtailed.

The course of instruction at the camp comprised a variety of subjects of which I had not dreamed before, and if we did not learn anything else at the camp, we certainly learned how ignorant we are on the duties of a military medical officer who may be called on at any time to do anything from inspecting the meat supply and passing on its fitness as food to sitting as judge at a court-martial. In the morning bright and early when we heard the first sound of the bugle we did not turn around in bed and say, "Oh fudge," and take another nap, but promptly arose; twenty minutes later at the call of "assembly," we assembled—after the first day promptly—to take our "setting-up" exercises, after which we were wide awake and ready for mess call. During this time a squad of privates "policed" the ground, which means seeing that everything is in perfect order, col-



Fig. 4. Field Hospital. Office, operating and supply tents.

lecting pieces of paper and other rubbish which might be lying around. After morning mess at the officers' mess shack, where well-cooked meals of considerable variety were served in an appetizing manner, we were ready for the day's work. This consisted of lectures and drills so alternated as to be least fatiguing, for example, after doing "litter drill" in the hot sun we were glad to have a lecture on "military etiquette," and after having learned just how to make a map to show the elevation of any given point

on it, we were glad to drill with our pretty new sabers. Then there were inspections which were very interesting and required no great mental activity. We would inspect the equipment of a field hospital, the soldiers' quarters, the ambulance company in action, etc. At 5 in the evening we had "stables," that is, we were marched to the picket line to study the



Fig. 5. Loading Field Hospital on transports.

art of manicuring our fellow citizen, the Missouri mule. This was the only part of the program which was objected to by our Chicago colleagues, yet it is a very important part of the duty of an army officer to see that his stock is in good condition. It was interesting to see a young private from the Ohio State Militia



Fig. 6. Headquarters Street. Adjutant's office, Quartermaster's Supply, Commanding Officer's and two Major's tents. (Dr. Thompson, of DeWitt, Mo., reading bulletins.)

who had probably spent most of his time at the desk, currying an able-bodied mule as one would comb the tresses of a babe. The mule, by the way, is a very important part of the medical equipment of the army; he draws the ambulance, carries supplies on his back, occasionally feels indisposed, when the medical officer prescribes for him a dose of Epsom salts, or what-

not, and at times furnishes him with surgical work. One of the young medical officers told me that for quite a while at Fort D. A. Russell, Wyo., he had no other medical work than mule kicks and obstetrics.

The course of lectures which were given at a shack termed the "hot-air shack" by one of our instructors, comprised such subjects as military etiquette, military correspondence (which, by the way, might serve as a model for business correspondence), map making and map reading, problems of orientation and visibility, army organization, tent pitching, use of the first aid packet, etc. It is really remarkable how much ground our instructors covered in the short time allotted to them, and it was inspiring with what zeal and earnestness, one might almost say devotion, they took up the seemingly hopeless task of making medical officers out of raw recruits. The War Department is supplementing this work by a correspondence course



Fig. 7. The "Hot Air Shack" Canteen with "Cold Goods" conveniently placed "just across."

extending over a period of five years. At the Army Medical School a four months' course of instruction has been arranged for any of the officers of the Medical Reserve Corps who might wish to take advantage of it, as well as a six weeks course at the Field Service School at Fort Leavenworth.

Late on Thursday afternoon Hospital Company No. 1, Ambulance Company No. 1, as well as the Ohio State sanitary troops, which were encamped at the same place, broke camp. Within a very short time the field hospital, comprising six tents, was packed on wagons; the ambulances were in readiness; the mules bore their packs, and the men their marching equipment. Marching some distance from camp they went into bivouac for the night. This was the beginning of our military problem, which was to be worked out next day. The enemy had been sighted at such and such a point on the map by our scouts and we expected to meet him next day. Friday morning we

broke camp early, our imaginary line troops being at such and such a point ready to meet the enemy; we kept in readiness and at the proper time a dressing station was established to take care of the wounded brought in by the ambulances after the ensuing engagement, which was made more realistic by the whistling and bursting of shrapnel shells, shot by the artillery stationed at Fort Robinson. The enemy, of course, was routed. On that eventful day we had a taste of the kind of army food we read about. We cooked it ourselves, and ate at least a part of it, which was bad enough, but when we were compelled to clean the borrowed meat pans, etc., with dry earth and bunches of grass—water, theoretically, being very scarce—we might have used profane language, were it not prohibited by army regulations. The evenings were spent in various ways. On Tuesday evening Dr. Maximilian Herzog of Chicago, popularly known as "Gen. von Hindenburg," gave a very instructive lecture on anaphylaxis. On two evenings we went to Camp Robinson to hear the band concert. On Friday evening we had a banquet in honor of the faculty. Appropriate poetry had been written by the camp poet and was sung after the tune of "Long, Long Ago" by the camp baritone. Toasts were responded to by various men, Dr. Noyes of Columbia responding to the toast, "Missouri."

On the whole, we had a delightful time, learned a great deal, and I trust that in future training camps, patriotic physicians of our good old state will be better represented than was the case at this time, and I assure you that those of you who may visit a military training camp will find it a very profitable investment of both time and money.

2406 Kingshighway, N. E.

CHOICE OF OPERATION IN THE VARIOUS CLASSES OF CASES OF RETRODISPLACEMENT OF THE UTERUS

WITH LANTERN SLIDES

(Continued from May, 1916, page 212)

H. S. CROSSEN, M.D.
ST. LOUIS

6. *Lateral Folding of the Round Ligaments.*—Care should be taken to fold each round ligament in such a way as to strengthen the weaker distal portion, as indicated in Figures 31 and 32. If the ligaments are very lax they may be folded so as to make three thicknesses all the way from the abdominal wall to the uterus (Fig. 31). If only long enough for partial folding, the fold should be made at the outer end

(Fig. 32), particularly if the outer end is attenuated.

7. *Ventral Suturing of Round Ligaments.*—This is more troublesome than the simple folding, but it has the advantage of giving a strong forward pull, as shown in Figures 33 and 34. Where the ligaments are very lax, the slack may be taken up by folding the ligament as it is being sutured along the wall. Care should be taken to roughen the approximated surfaces and to secure approximation with forty-day catgut. If there is strong backward tendency it is well to reinforce the catgut with a single silk suture on each side where the ligament joins the wall.

II. OVARY AND TUBE OF ONE SIDE REMOVED

The removal of the tube and ovary fixes the tissues of the broad and round ligaments more or less. The amount of fixation depends on the amount of inflammatory infiltration and the technic employed in adnexal removal. In some cases the fixation is so slight that most any one of the operations above mentioned may be carried out. As a rule, however, even though the adnexal removal is carried out with particular care to avoid suture-fixation of tissues, the mobility of the round ligaments or of the uterus is interfered with sufficiently to make any of the transplantation operations inadvisable.

The following methods are useful in cases of this class:

1. *Posterior Folding of Round Ligament over Pedicle.*—By this method, shown in Figures 35 and 36, the adnexal pedicle is well covered by the same maneuver that fastens the corpus uteri forward. The ligament is folded on the posterior surface of the uterus sufficiently to take up the slack and give some forward traction. As the uterine attachment of the active portion of the ligament is moved farther back, there is a better forward pull. The opposite ligament may be folded on itself (Figs. 31 and 32) or it may be folded over the top of the uterus (Fig. 26) or it may be drawn backward through the broad ligament (Figs. 18 to 20). Whatever method is employed, the shortening should be adjusted to correspond with that on the side first treated, so that the uterus will not be drawn laterally to any marked extent.

2. *Other Methods.*—If preferred, the pedicle ends may be covered by peritoneum, and the ligament of each side shortened by folding on itself (Figs. 31 and 32) or by folding to the front of the uterus (Figs. 21 to 25) or over the top of the uterus (Fig. 26).

III. TUBE ONLY REMOVED

In such a case the conditions are about the same as in the preceding class and the methods there recommended are suitable.

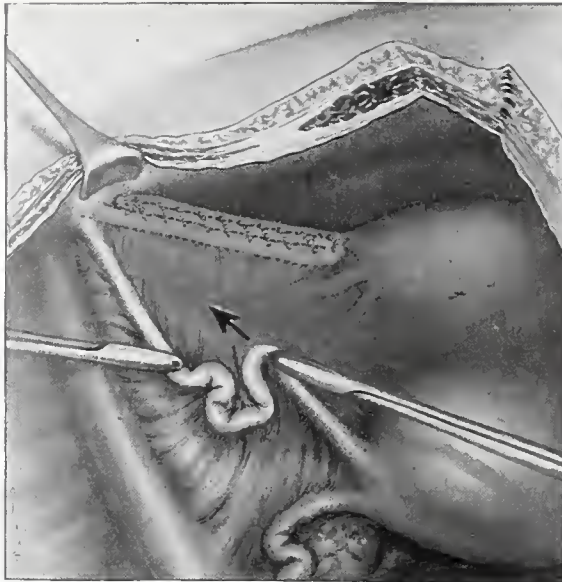


Fig. 31

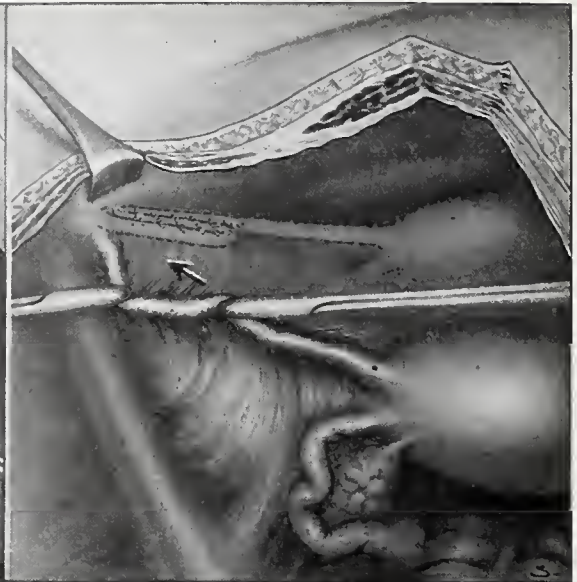


Fig. 32

Fig. 31.—Lateral folding of the round ligaments (Mann technic). The forceps on the proximal portion of the ligament is carried to the distal end of the ligament at the abdominal wall, while the forceps on the distal portion of the ligament is carried to the uterus. The folds are then sutured in that position, giving the result shown above in dotted outline.

Fig. 32.—When only a portion of the ligament needs to be folded, it is well to make the fold at the outer end as here indicated, so as to strengthen the outer weaker portion of the ligament. Chromic catgut or fine silk should be used for the suturing, and the sutures should not include the whole thickness of the ligament.

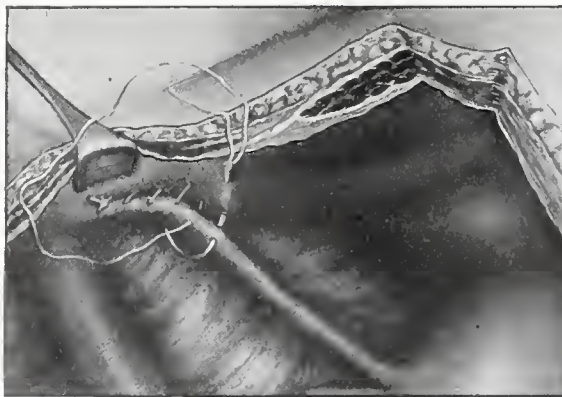


Fig. 33

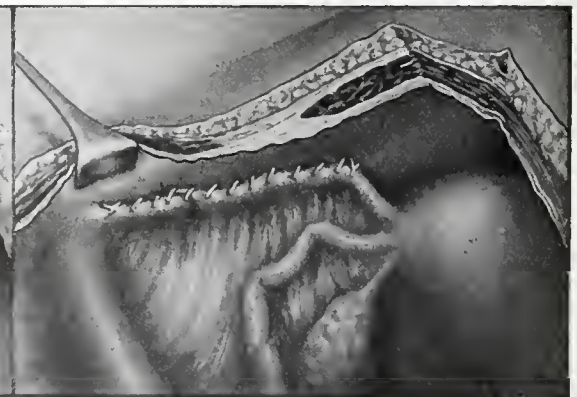


Fig. 34

Fig. 33.—Ventral suturing of the round ligaments (Neuhof technic). The suture should include about half the thickness of the round ligament and should take deep bites of the abdominal wall. It is well to roughen the surface of the ligament before approximation.

Fig. 34.—The suturing completed. The fastening may be made more secure by adding on each side a single silk suture, at the point where the ligament leaves the wall to pass to the uterus.

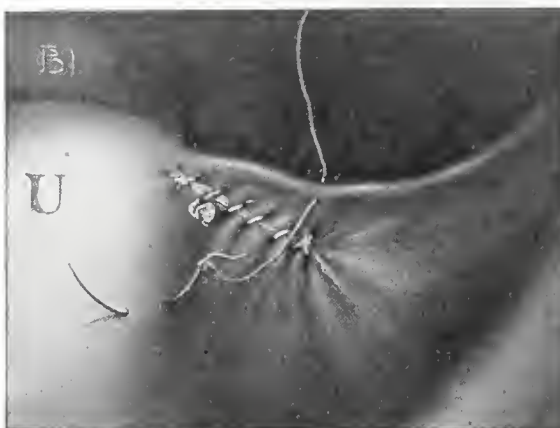


Fig. 35

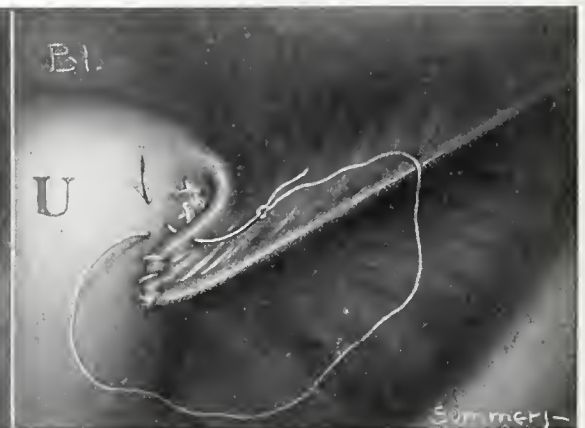


Fig. 36

Fig. 35.—Posterior implantation of round ligaments where adnexa have been removed. Passing the first suture. The point on the round ligament caught in the suture is to be fastened to the selected point on the posterior surface of the uterus, indicated by the needle.

Fig. 36.—The first suture tied. The proximal portion of the round ligament is then sutured to the uterus as here indicated. The suturing is continued all the way to the uterine end of the ligament, thus completely covering the raw surface of the adnexal pedicles.



Fig. 37

Fig. 37.—Abdominal shortening of utero-sacral ligaments (Bovée technic). Isolation of the right utero-sacral ligament through an incision in the peritoneum over it. The upper edge of the ligament is identified and isolated by the finger.

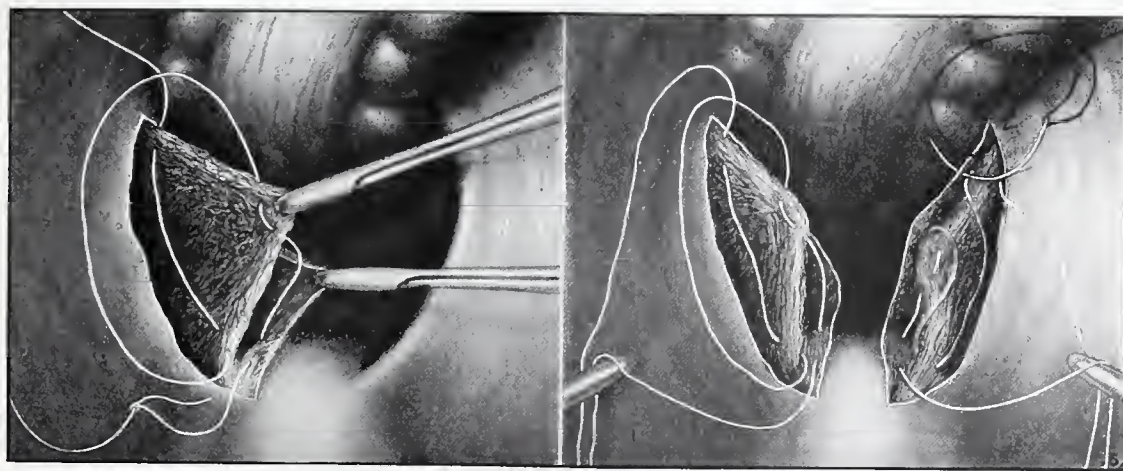


Fig. 38

Fig. 39

Fig. 38.—Ligament drawn out and the shortening-suture in place. The suture is passed through the sacral end of the ligament, then through the uterine end, then through the center of the fold (held in forceps) and then through the cervix below the attachment of the ligament. The suture is left lax.

Fig. 39.—Both shortening sutures passed and left lax. The peritoneal suture begun. Either set of sutures may be of chromic catgut or fine silk, as preferred. All sutures are passed before any one of them is drawn tight.

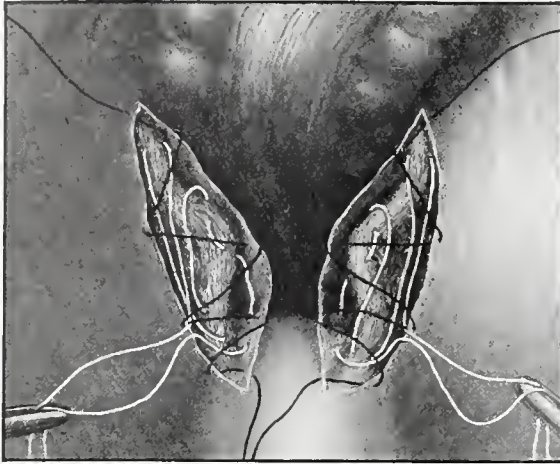


Fig. 40



Fig. 41

Fig. 40.—All sutures passed. The ligament sutures are tied first, and then the peritoneal sutures.

Fig. 41.—The operation completed. The cervix uteri is drawn back near the sacrum and all raw surfaces are covered. This gives the corpus uteri a much better forward inclination—by whatever method the latter is subsequently fastened anteriorly.

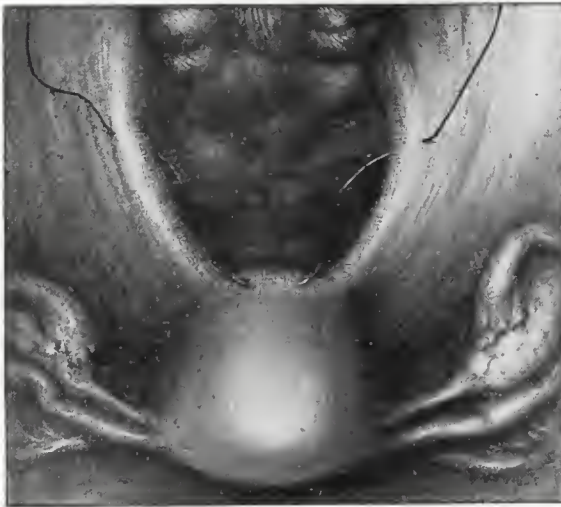


Fig. 42

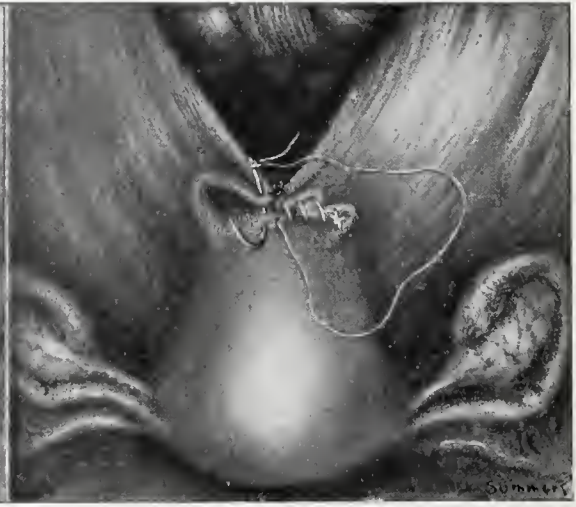


Fig. 43

Fig. 42.—Noble technic. The shortening suture is passed without incision of the peritoneum. A single suture includes the two utero-sacral ligaments and the posterior surface of the cervix uteri. The surfaces to be approximated are scarified.

Fig. 43.—The shortening-suture tied. This suture should be of silk or linen. It is well to suture the slack of the ligament securely to the posterior surface of the cervix with catgut, as here indicated. The ligaments should be fastened well down on the posterior surface of the cervix, below the pivotal area of the uterus.



Fig. 44

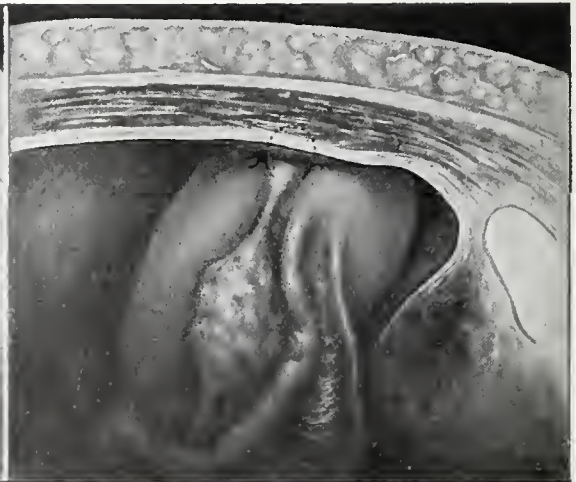


Fig. 45

Fig. 44.—Ventre-fixation of fundus uteri (Olshausen technic). The fixation sutures are passed through the round ligaments, at their junction with the uterus.

Fig. 45.—Kelly technic. The fixation sutures are passed through utero-ovarian ligaments, giving a better forward inclination of the uterus.

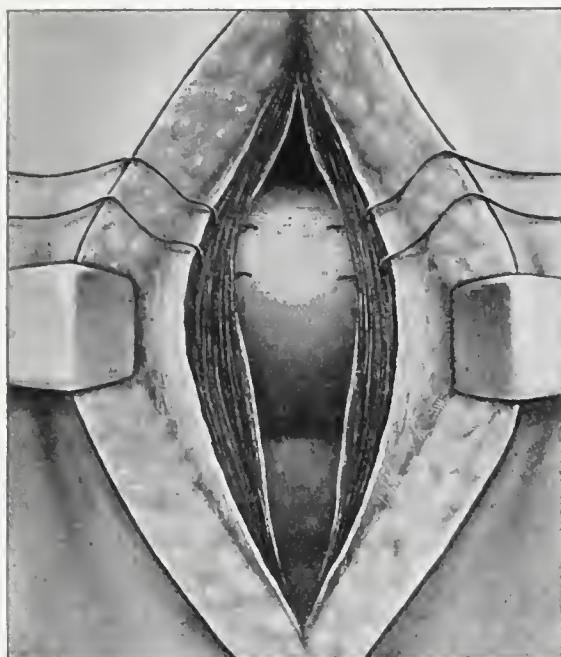


Fig. 46

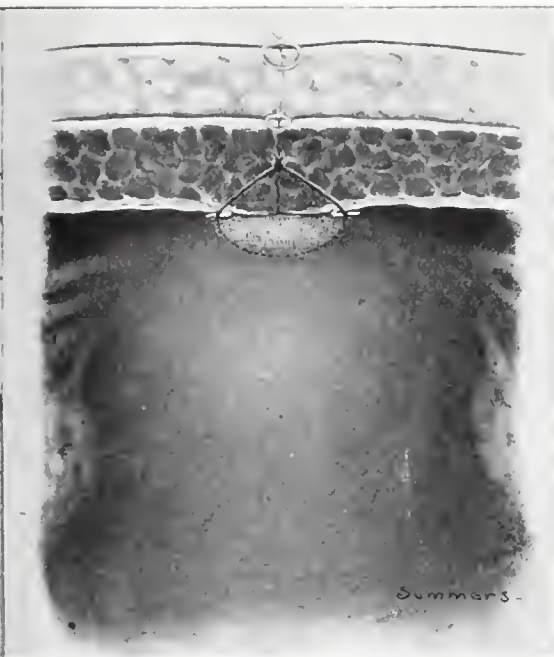


Fig. 47

Fig. 46.—Leopold technic. The fixation sutures are passed directly through the fundus uteri. They should be passed through the posterior surface of the fundus.

Fig. 47.—It is well to scarify the uterine surface freely and also to draw aside the peritoneum as indicated here, so that the uterus is fastened directly to the fascial layers of the abdominal wall.

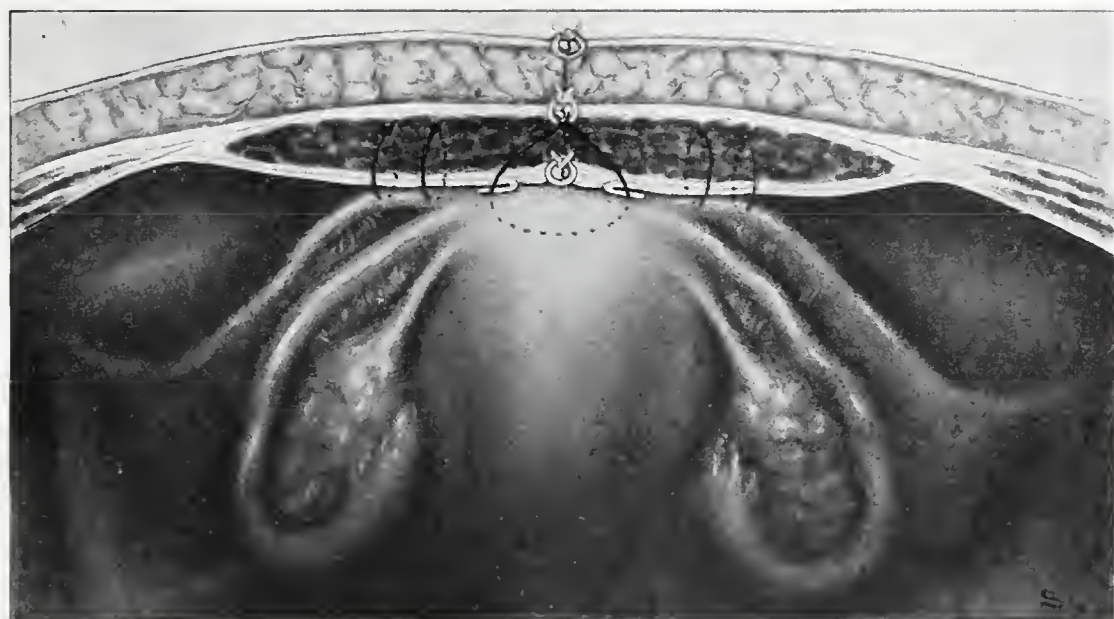


Fig. 48

Fig. 48.—Vineberg technic. The fixation sutures are passed through the fundus uteri and also through the round ligaments.

IV. OVARY ONLY REMOVED

Removal of the ovary only usually interferes but little with the mobility of the round and broad ligaments, hence the case is suitable for the operative methods recommended for the first class, except drawing the round ligaments backward through the broad ligaments or posterior plication of the broad ligaments.

V. VARICOSE VEINS OF BROAD LIGAMENT

If the tissues are freely movable, such a case is suitable for any of the operations mentioned for the first class, except drawing the round ligaments through the broad ligaments or posterior plication of the broad ligaments. As previously mentioned, these methods would tend to cause thrombosis in the diseased veins.

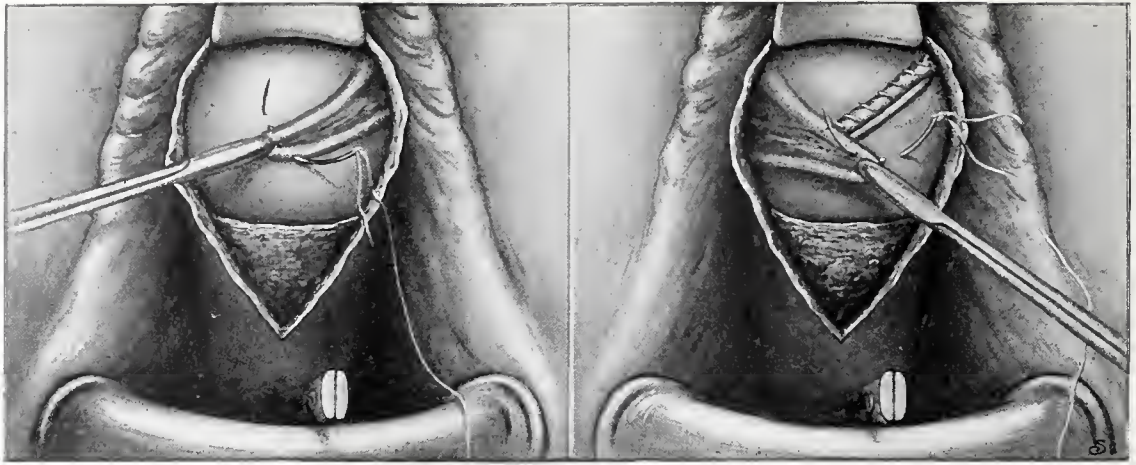


Fig. 49

Fig. 50

Fig. 49.—Vaginal shortening of the round ligaments (Goffe technic). The left round ligament loop brought into place and the suturing begun.

Fig. 50.—Suturing of left round ligament loop completed. Right loop brought into place.

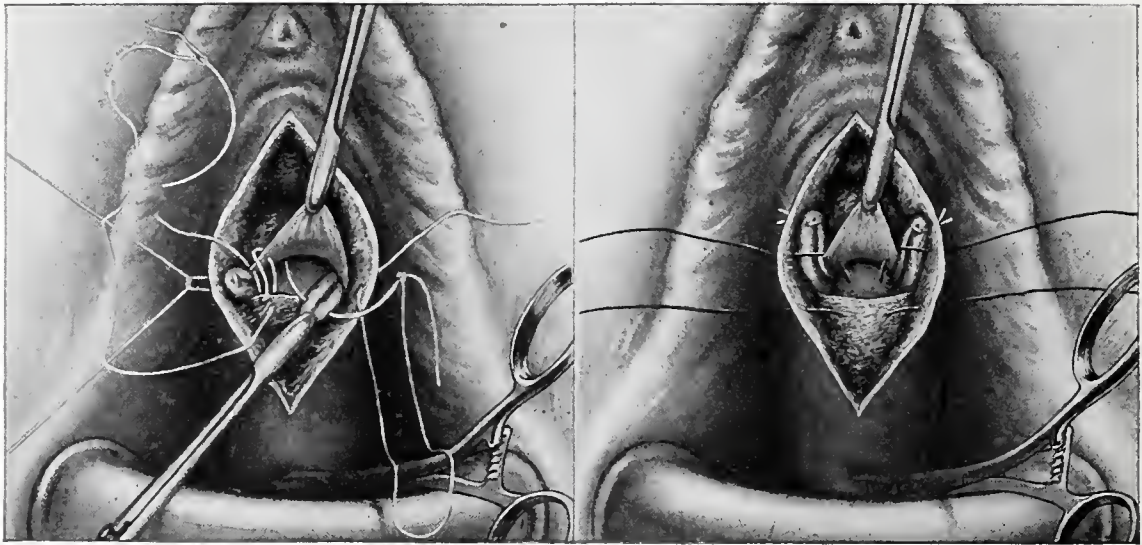


Fig. 51

Fig. 52

Fig. 51.—Wertheim technic. Right round ligament loop in place. Left round ligament loop brought into view for suturing.

Fig. 52.—Vineberg technic. The ligament-loops fastened in their position far forward. The fixation sutures in place.

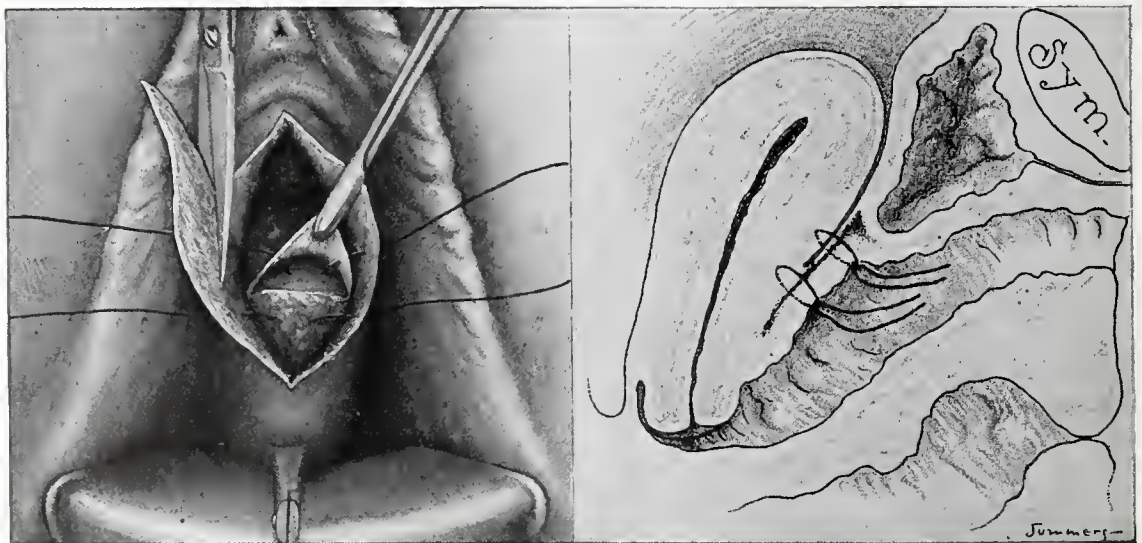


Fig. 53

Fig. 54

Fig. 53.—Vaginofixation of the uterus (Mackenrodt-Dührssen-Winter technic. The fixation sutures passed. Trimming off the excess of vaginal wall. The peritoneal opening is to be closed by a running catgut suture.

Fig. 54.—Anteroposterior sectional view, showing the results of the operation. The base of the bladder is raised and the corpus uteri is held well forward. Operation not applicable in the child-bearing woman.

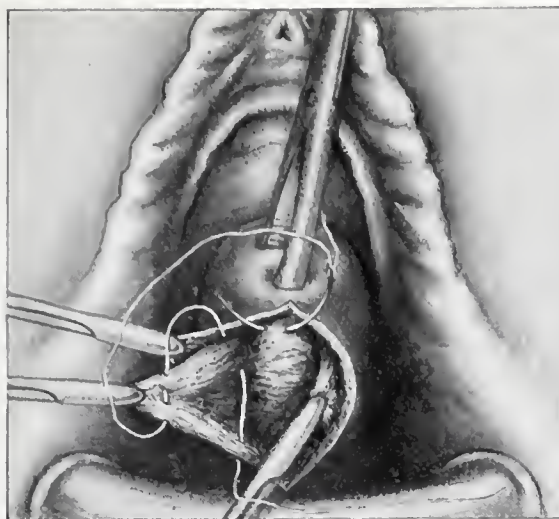


Fig. 55

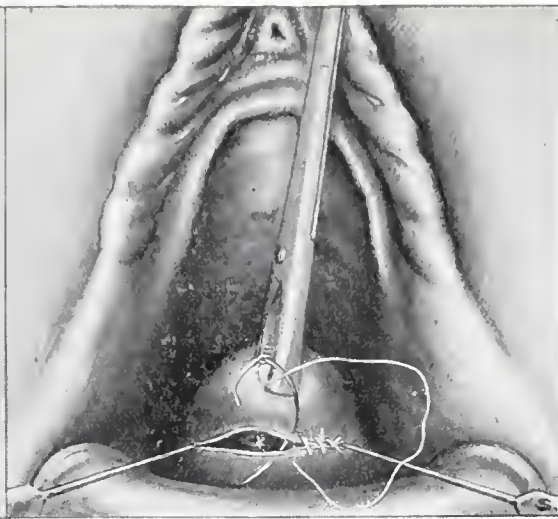


Fig. 56

Fig. 55.—Vaginal shortening of the utero-sacral ligaments (Bovée technic). The shortening-suture in place. The suture is passed first through the sacral end of the ligament, then through the uterine end, then through the center of the loop (held in forceps), then through a point low on the cervix.

Fig. 56.—The shortening suture tied. The longitudinal incision back of the cervix is changed to transverse by traction as here indicated, and sutured in that way. This helps to hold the cervix well back.

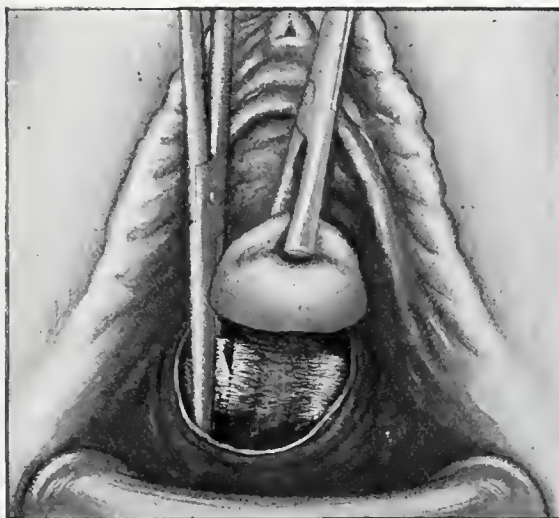


Fig. 57

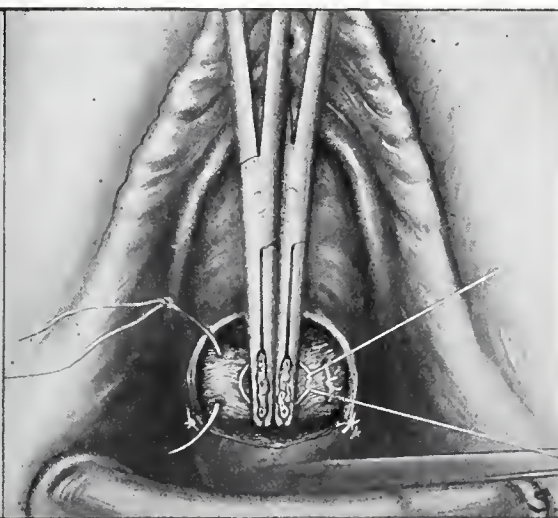


Fig. 58

Fig. 57.—Jellett technic. The utero-sacral ligaments isolated and the right caught with a forceps ready for incision. A circular incision has been made around the cervix.

Fig. 58.—Both ligaments excised from the posterior surface of the cervix, the cervix pushed back, and the ligaments brought together in front for suturing.

If the varicosity is so marked that treatment of the veins (ligature and incision or excision) is required, then the broad ligament tissues become fixed, as in the cases of the class next mentioned.

VI. PELVIC TISSUES INFILTRATED AND STIFFENED

These cases are not suitable for drawing the round ligaments into the abdominal wall (transplantation operations) nor for drawing the round ligaments backward through the broad ligaments.

A satisfactory result may usually be secured by folding each round ligament on itself (Figs. 31 and 32) or by suturing the round ligaments to the under surface of the abdominal wall (Figs. 33 and 34) or by suturing them to the top of the fundus uteri (Figs. 24, 25 and 26).

VII. CERVIX TOO FAR FORWARD

In such a case, if practicable, the uterosacral ligaments should be shortened (Figs. 37, 38, 39, 40, 41, 42 and 43) in addition to the work for holding the fundus uteri forward. In such a case it is important also to make particularly strong repair of the pelvic floor.

B. PREGNANCY NOT POSSIBLE

The elimination of the possibility of pregnancy in the child-bearing period may be due to complete removal of the adnexa of both sides or to the removal of both tubes or to the removal of both ovaries. When one or both ovaries are retained the preservation of the uterus may be advisable in order to maintain menstruation. When both ovaries are removed it is advisable to remove the uterus if it presents any abnormality likely to give trouble unless the patient definitely desires otherwise.

Likewise, when the patient is past the menopause, if the displaced uterus presents any other abnormality that may cause further disturbance, it is ordinarily advisable to remove it rather than to fasten it forward.

In the cases with future pregnancy eliminated there are two kinds of retrodisplaced uteri preserved.

1. *Active Uterus Preserved.*—In these cases the uterus is still normally large and heavy and requires secure forward fastening. Strong ventrofixation (Figs. 44, 45, 46, 47 and 48) is the method of choice when the uterus is sufficiently movable for the fundus to be easily brought against the abdominal wall. When the fundus will not come easily to the abdominal wall, then it is well to fold the round ligaments over the adnexal pedicles (Figs. 35 and 36) fastening the ligaments securely to the posterior surface of the uterus. If preferred, the round ligaments may be folded on themselves (Figs. 31 and 32) or plicated on the front of the uterus (Figs. 21 to 25) or folded over the top of the uterus (Fig. 26) or sutured to the abdominal wall (Figs. 33 and 34).

2. *Senile Uterus Preserved.*—If the uterus has undergone marked senile atrophy it may, as a rule, occupy any position of retrodisplacement without causing symptoms. If it is thought advisable to fasten the small uterus forward this may be accomplished simply by folding the round ligaments over the top of the uterus (Fig. 26) or by folding the ligaments on themselves (Figs. 31 and 32).

However, if any definite prolapse of the bladder or uterus is present treatment directed more particularly to the prolapse is advisable.

VAGINAL SECTION

In general, it may be stated that vaginal operation for retrodisplacement is indicated in those cases where other deep vaginal work is needed and lesions requiring abdominal section can be eliminated. As to just what lesions require abdominal section there is considerable difference of opinion among operators, the variations in practice being due to some extent to personal preference and training. Abdominal

section is certainly preferable in cases of appendiceal or intestinal complications, of extensive adnexal inflammation, of adherent retrodisplacement, of large tumors and of doubtful lesions.

Vaginal shortening of the round ligaments (Figs. 49, 50, 51 and 52) for movable retrodisplacement fits in very advantageously with plastic operations for cystocele and repair of the pelvic floor.

Vaginofixation of the uterus (Figs. 53 and 54) of sufficient extent to insure a permanent result is hazardous in the child-bearing period, but it may be used with satisfaction after the menopause for simple retrodisplacement or for retrodisplacement with slight prolapse and cystocele.

Vaginal shortening of the uterosacral ligaments (Figs. 55, 56, 57 and 58) is indicated in vaginal operation for cases where the cervix is very far forward. It is a rather troublesome operation, however, and is rarely necessary in simple retrodisplacement. Its principal field of usefulness is in cases of prolapse.

NOTE.—Dr. Crossen presented this subject at the annual meeting, 1915, speaking from lantern slides. Since that time the matter has appeared in his *Operative Gynecology*, published during the year.—Ed.

Metropolitan Bldg.

DISCUSSION

DR. C. LESTER HALL, Kansas City: I am very sorry that Dr. Crossen was not allowed time to complete his paper. The illustrations are beautiful and commend themselves strongly to operators. In justice to the doctor and to results we might at once exclude ventral suspension, which means suspending the uterus from the peritoneum; we might exclude it as absolutely useless and unpardonable in a young woman who is likely to become a mother, as stated by Dr. Crossen. Suspension of the uterus to the peritoneum is nothing. Howard Kelly's method of suspension is absolutely a worthless suspension, in my opinion, because owing to the amount of elasticity the peritoneum shows in its attachments you are almost sure to have a recurrence of the condition. Where you have to remove both adnexa I believe it is always best to save the uterus if possible. However, I have found that where you remove the adnexa on both sides the uterus will undergo rapid atrophy and any operation that will support it in position for a given length of time will be a satisfactory operation; the uterus will become so small that it will have no weight and the tendency to retrodisplacement will be avoided.

The two important factors in the restoration of a retrodisplaced uterus are the use of the round ligaments as guy ropes, *as they are*, to place the fundus uteri forward so that the superincumbent pressure from the abdomen—the intestines—will have a tendency to hold it in position, the pressure falling on the posterior aspect of the uterus. The other factor is the function of the uterosacral ligament. I am quite sure, while it is not used much, that if we were to do a shortening of the uterosacral ligament so as to pull the cervix back we should gain a great point in sustaining the replaced uterus. In shortening the round ligaments we are all influenced in a great measure by our own personal experiences. It must

be so; we cannot follow entirely the experience of other surgeons.

I am convinced that in all operations in the abdominal cavity we must and should observe and do an operation along anatomic lines. This retrodisplacement may be one immediately following childbirth in which none of the tissues of the pelvic cavity have undergone proper involution, a heavy uterus resulting, and from the woman lying on her back after confinement and no attention paid to it thus leading to a condition of subinvolution of all the tissues involved—not only of the uterus but also of the vagina, and not only of the vagina but also of the broad ligament, of the round ligament, etc. In these operations in selected cases the doctor likely is right in his contentions, but I take it that any operation of plicating the round ligament within the cavity, fastening it to the fundus of the uterus or to the posterior wall of the uterus, is a wrong operation; I do not believe it is according to anatomic demands. The round ligament is strong next to the uterus; it is thin as it gets out of the pelvic cavity and into the canal of Nuck and becomes thinned out and frayed out. When we double up the round ligament on the back of the uterus or on the fundus of the uterus we are absorbing absolutely the only part of the round ligament that has any strength and trusting the support of the uterus to the part of the round ligament which is thinned out, attenuated and subinvolved. I believe the strongest part should be preserved in its integrity; I do not believe in plicating it; I do not believe in doubling it up in any form whereby you destroy the best and strongest part of the round ligament. Therefore I would discard, with due courtesy to the doctor, every one of these operations that use the round ligament in this manner.

With the Ferguson operation or the Gilliam operation or the Montgomery operation there cannot be any question as to which is the best operation. The Gilliam operation is simply a stab operation in which you go directly through into the abdominal cavity, pick up the ligament and pull it right on out in a straight line under the fascia or over the fascia, if you please, and the result is that you leave, when the operation is completed, three distinct openings on the top of the broad ligament and on the top of the uterus, three distinct openings whereby the bowels can pass and adhesions may form, causing a retrodisplacement of the uterus or angulation and obstruction of the bowel.

The Montgomery operation the doctor has described is somewhat different from mine. I learned the operation from Montgomery, only he used to go from below up and from within out under the peritoneum. I do it now with a Billroth needle from without. As I do it, and I am proud to say that I have never had a recurrence of the retrodisplacement after operation, I am afraid that I have not followed the conditions as closely as Dr. Crossen says we should and have not differentiated as he has, but if we get good results that is what we want whether it is in an individual case or in fifty cases. I do this operation as follows: I fasten the round ligament with forceps about 1½ inches from the uterus on either side. I pass a silk ligature under the round ligament and on the uterine side of the forceps, then I take the Billroth needle and go through fascia and muscle out over the peritoneum. This needle is entered, as the doctor said, near the outer border of the rectus muscle, going right through fascia and muscle, keeping the finger on and guiding the point, I bring the needle out near the exit of the round ligament under the peritoneum. In this needle, which has a large eye, I thread both ends of this ligature that I put under the round ligament. I hold the forceps which are placed outside the needle in position until I have kinked the round ligament, after which I remove the forceps and drag the ligament around out through all the tissues under the

peritoneum on top of the fascia, after I have the doubled up ligament at the right place on that side and have drawn the fundus of uterus to as near approach to the normal position as possible, I do the same with the other side. I turn up the round ligaments, double and stitch them to the fascia firmly. That, in my opinion, is the best procedure in a majority of cases. With this method, I have left the strongest part of the round ligament, I have left one opening over the uterus, as Nature intended it to be. I have plicated the weak part of the ligaments and I have fastened them outside the fascia where they will stay.

THE PRESENT STATUS OF THE ARGYLL-ROBERTSON PUPIL*

MAX W. JACOBS, M.D.
ST. LOUIS

"The photometric reaction is seen in the most aged and miotic subjects and a patient with an Argyll-Robertson pupil is not sound. Tabes and paralysis are the conditions in which it is most often noted, and syphilis is the most important if not the sole etiological factor."

Vinaver goes on with the assertion that a definite case of Argyll-Robertson pupil on a non-luetic basis is unknown. Every person who presents this phenomenon is to be considered luetic. It is found in tabes and paralysis as well as in acquired or congenital lues. Fuchs found it in 80 per cent. of all tabetics, in old cases of brain syphilis, in disseminate sclerosis, senile dementia and in injuries of the spinal column. Regarding the relationship between miosis and pupils fixed to light Fuchs states that he found miotic pupils rarely unaccompanied by fixed pupils (to light), whereas the Argyll-Robertson phenomenon was present in non-miotic pupils in 50 per cent. of all cases. Camus quotes German statistics of 67 per cent., and Pierre Marie's of 80 per cent. to 90 per cent. for the Argyll-Robertson pupil in tabes, and concludes that it is practically a regular thing in old cases. It is rarely found unilateral according to this writer, but Nonne has reported seeing it in an alcoholic who could not be considered tabetic. He also states that the reaction may again appear after treatment with salvarsan and mercury. Mitchell-Clark found two patients with Argyll-Robertson pupils amongst sixty-nine with cerebral and spinal syphilis, and these had luetic meningitis. In six others the sluggish reaction became normal after treatment with mercury. Neurologists are a unit in believing that the Argyll-Robertson phenomenon is not evidence of tabes when it is the sole demonstrable symptom. On the other hand, it is decisive in cases of difficult differential diagnosis between tabes and pseudo-tabes.

* Read before the Ophthalmic Section, St. Louis Medical Society, Feb. 2, 1916.

Babinski, de Lapersonne and Sicard at a symposium of the Paris Neurological Society, asserted that the Argyll-Robertson pupil is not a typical sign of tabes but merely shows that the nervous system has been attacked by syphilis. This is concurred in apparently by Goldflam, who states that while the tendon reflex may be congenitally missing, the pupillary disturbance is evidence of an organic nerve affection. Rose believes that the phenomenon is, in the majority of cases, a sequela of old syphilis and positive evidence that the patient has had the disease, where it is the only manifestation from the side of the nervous system. The fact that it has been found, even if rarely, in patients without a previous syphilitic infection speaks for a diversity of location of the lesion causing this phenomenon. There are undoubtedly extremely rare cases of Argyll-Robertson pupil in non-syphilitic patients. Finkelburg reported a case of pupils fixed to light which had appeared several weeks after a head injury and which was still present one and one-half years after the accident. Bierman mentions a case of diabetes mellitus in whom the pupillary phenomenon was noted. Every possible means for detecting lues in Bierman's case resulted in negative findings. He also believes that the lesion causing the Argyll-Robertson pupil can be localized in various places and that it is important that the cervical-bulbar region and the peduncles as well as the branches of the oculomotor nerve and ganglion ciliare with its nerves be examined anatomically with this in mind.

Mees in reporting the presence of the Argyll-Robertson pupil in an alcoholic quotes Nonne, who first reported fixed pupils due to excessive use of that agent. Eighteen cases were described but no serological examination was made, as the patients were seen before 1907. Lues was therefore not ruled out absolutely. Nine additional cases were also incompletely examined from the serological standpoint. In 1911 Nonne reported three cases of fixed pupils due to excessive use of alcohol in whom serological examinations were negative. Two gave a history of syphilis, however, and in the light of present knowledge could not be considered non-luetic even after repeated negative serological examinations. As shown by Hauptmann in 1911, all four luetic reactions may be negative and the patients still give evidence of syphilis or its sequelæ. Bumke and Weiler denied in 1911 that pure alcoholic Argyll-Robertson pupils exist. Bumke found in 1.4 per cent. of patients, from an immense mass of material which showed this phenomenon, no evidence of tabes or paralysis. This 1.4 per cent. were examined before the days of the modern serological examination. Mees' patient gave atoxic and epileptic manifestations. Both

pupils were fixed to light but reacted feebly to accommodation. The Wassermann reaction, although done repeatedly and after five weeks of abstinence from alcohol, which the patient had been using to excess, was negative. The test was made in blood and spinal fluid. Nonne's reaction and the albumin reaction in cerebrospinal fluid were negative. There was no cell increase in the sediment of the fluid, and the fluid pressure was not increased. Clinically he showed the typical picture of alcoholic polineuritis. The symptoms of epilepsy disappeared on abstinence from alcohol.

Nonne in 1913 quoted Bumke as follows in speaking of the Argyll-Robertson pupil: "Its presence, though rarely, in non-luetic alcoholics has not been excluded." The patient discussed in this publication by Nonne gave negative results in all tests for lues. Spinal column and brain showed microscopically no sign of paralysis. Bumke asserts that the seat of the disturbance should be sought where the reflex transfer from sensory to motor path occurs, i. e., he assumes a lesion which makes the endings of the centripetal reflex path around the sphincter nucleus incapable of carrying the impulse further. Now it is firmly established that in tabes a prominent feature of the pathologico-anatomical picture is the destruction of the terminal fibers of the sensory protoneurons, i. e., the elimination of the finest branches of this neuron around the individual ganglion cells although the ganglion cells remain intact. Bumke speaks of an elective effect of the tabetic degeneration on the reflex collaterals—of an effect which manifests itself in the glia structure in a corresponding proliferation of the supporting substance. If we accept this as the anatomical proof of the cause of the patellar phenomenon, says Nonne, we ought to be able to accept it as well for the pupil.

We know that a glial proliferation is found in the brain in chronic alcoholism. Were this process of sufficient degree we could have what occurs in tabes and paralysis. The slow pupil found in alcoholics at times, goes perhaps to prove that this change is only one of degree. The anatomical examinations of Nonne have been criticized by Wilson, however, as lacking thoroughness. Nonne asserts that he found no evidence of tabes or paralysis in one case examined histologically, while in others, also alcoholics, lesions of the posterior and lateral columns were noted.

The pathogenesis of the phenomenon is absolutely hypothetical and will remain so until the anatomical course of the pupillary reflex paths is known. The cause, says Vinaver, lies probably in all lesions of the sphincter pupillæ or a lesion in the area in which the centripetal changes to the centrifugal segment. Monakow

and Tsuchida's area in the lateral main nucleus of the general oculomotor nucleus have not been proved the center for pupil reflexes; neither is the center for pupillary fibers from brachium conjunctiva of the tuberculum quadrigeminum anterior to the common nucleus of the oculomotor known. Mitchell-Clarke calls attention to the fact that it is independent of a lesion of the posterior bundle, for in lesions of that structure the phenomenon is absent. Marina attributes it to an alteration of the ciliary ganglion, providing we accept that structure as the peripheral center of the pupillary reaction to light. Thomas examined ciliary ganglion and ciliary nerves in two tabetics in whom before death the Argyll-Robertson could unquestionably be noted. No degeneration was found in the ganglion branches of trigeminus entering same or in those of the oculo-motor or sympathetic. If these findings are positive proof that the Argyll-Robertson pupil can be present in tabes without the appearance of demonstrable degeneration in the above mentioned portion of the nervous eye apparatus, still the conclusion is not justified, says Thomas, that the ciliary nerves do not participate in the Argyll-Robertson phenomena, since these nerves have not been examined in this sense from their entrance through the sclera to their endings in the iris. Bumke in his work on the pupil in discussing the sphincter nucleus and its communication with the opticus concludes that nothing positive can as yet be said regarding such paths.

CONCLUSIONS

1. There is no reason at the present time to doubt the close relationship between lues and the Argyll-Robertson pupil.

2. Alcohol has apparently, in some cases, produced tissue changes allied to those found in syphilis and which may be associated with the Argyll-Robertson phenomenon.

3. The location of the sphincter nucleus of the pupil and the course of the fibers along which the pupillary impulses travel are still not definitely proven.

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WILL THE PROFESSION HAVE TO BE REEDUCATED ON THE SUBJECT OF APPENDICITIS*

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I have no apology to offer for bringing before you for discussion the subject of appendicitis. Those of us who are actively engaged in the exclusive practice of surgery can but be impressed with the utter lack of understanding existing in the minds of many general practitioners, both in the city and country, as to when an operation should be undertaken for the relief of this murderous disease. Hardly a week or a day passes that patients are not brought to hospitals in a dying condition as the result of perforation and gangrene of the appendix which could have been averted by early operative work.

The surgical profession, with absolutely no dissenting voice, is a unit in advocating operation within the first twenty-four or thirty-six hours. Some years ago Dr. A. J. Ochsner of Chicago, who is a most enthusiastic advocate of early operation, read a paper before the American Medical Association at Atlantic City, in which he advised that those patients who were seen on the third or fourth day with a spreading peritonitis, high pulse rate and elevation of temperature, should be treated by the withholding of purgatives and all food and drink and the substitution, therefore, of stomach lavage, proctoclysis and rectal nourishment. He reported a series of cases treated after this method with gratifying results.

Quite recently Dr. George Crile of Cleveland, in a brilliant paper before the Southern Surgical and Gynecological Association, who is also an enthusiastic advocate of early operation, urged that the post-operative treatment of cases of widespread peritonitis should consist of repeated doses of opium, the object being to tranquilize the nervous system and to check intestinal peristalsis. That these two papers have been entirely misunderstood can best be illustrated by citing a recent case.

Mr. S. was referred to me by a physician of more than average intelligence. The physician stated that he had seen Mr. S. five days before his admission to the hospital and at that time he had made a diagnosis of a mild acute attack of appendicitis. He told me he had put the patient on the Ochsner treatment with the hope that the acute attack would subside and that an internal operation could be done. I asked him to explain what he meant by the Ochsner treatment. He informed me that he had given the patient calomel, which was followed by a large dose of Epsom salts, and that he had succeeded in getting the patient's bowels thoroughly emptied. He was then put on a liquid diet but solid food was not allowed.

* Read by title at the 58th Annual Meeting of the Missouri State Medical Association, St. Joseph, May 10-12, 1915.

On admission the patient had a pulse of 130, temperature 102.5, abdomen ballooned and he presented all the symptoms of a diffuse peritonitis.

Under ether anesthetic the perforated appendix was quickly removed and proper drainage instituted. The patient made a rapid recovery.

The above case shows the conception the average practitioner has of the Ochsner treatment. Had this case been in the hands of Dr. Ochsner the appendix would have been out in the first few hours of his initial attack and he would have been freed from the dangers of extensive peritoneal infection, and his stay in the hospital would have been very short.

While the surgical profession is in perfect harmony regarding the value of early operation, they are far from being a unit when it comes to the handling of late cases, namely, those in which there is present a diffuse peritonitis or the cases in which abscesses have become walled off.

It has been my practice to deal with all such cases whether seen early or late by prompt surgical interference and the treatment applied can best be described by dealing with the two common types of this disease. First, the cases seen on the third and fourth day in which the appendix has ruptured and there is no walling off and a widespread peritonitis is present. Second, those cases in which the abscess, or rather abscesses, are walled off from the general peritoneal cavity.

The treatment of the first type of cases is as follows: After thorough lavage of the stomach the patient is prepared in the usual manner for operation. Ether, preceded by $\frac{1}{4}$ grain of morphin and $\frac{1}{150}$ of atropin, is given by an expert anesthetist. Quick incision either through the outer border of the rectus or a gridiron is made and the head of the cecum is sought, which when found readily enables one to locate the appendix, which is quickly tied off and amputated. The small bowel is lifted out of the pelvis and the cofferdam drain of the late Joseph Price is quickly placed in the culdesac; another drain covered by soft rubber is made to occupy the kidney fossae. The wound is closed or left wide open as the judgment of the operator may decide. The patient is then returned to bed and placed on the right side. The cofferdam in the pelvis supports the small intestines and postoperative ileus is thereby prevented.

The Fowler position is absolutely of no value. Those of us who have taken the pains to visit the wards of various hospitals in which the Fowler position is supposed to be used have seen that the position advocated by Fowler has not been employed, but in its stead the head of the bed has been elevated so that the patient would lie on a moderate incline, a position which the investigations of Coffey and Coughlin

have demonstrated to be of little value in promoting gravity drainage. It is therefore reasonable to assume that the benefits which have been attributed to the Fowler position have been largely imaginary.

The after-treatment of these cases is simple. Sufficient morphin to make them comfortable, repeated use of the stomach tube and proctoclysis after the Murphy method, tap-water being substituted for normal saline. Since the publication of the experimental and clinical studies of Dr. Hugh Trout¹ in which he pointed out the dangers of normal saline we have used the tap-water exclusively in our surgical work.

How shall we treat those late cases in which there are well-defined abscesses, and I say abscesses advisedly as I have never encountered a single abscess case. Shall we incise the abscess, the incision being made over the most prominent portion, leave the appendix and put in a drain, or shall we resort to that unsurgical and filthy method advocated by MacLaren of St. Paul, drainage through the rectum?

For the last twenty years I can recall but two cases in which the appendix has been left. I have taught and practiced the deliberate breaking up of adhesions and the removal of the appendix and the opening and draining of all pus pockets. I have been rewarded by a low mortality and comparatively few postoperative complications. Joseph Price practiced and taught, until the day of his death, the value of going to the distal pathology in the handling of such cases. Van Buren Knott reports a series of 500 cases treated in this manner with an exceedingly low mortality. In handling such cases the method of procedure is as follows:

A long incision is made to the inner side of the abscess opening into the general peritoneal cavity. A wall of gauze is so placed as to surround the abscess and to hold back the intestines. The finger is then inserted between the abscess wall and the parietal peritoneum and as the pus is evacuated it is quickly mopped away. The appendix is located, tied off with catgut and amputated. The finger is then pushed over the pelvic brim and the pus in this locality is treated in a similar manner. The distal 10 inches of ileum usually found in the pelvis is freed of kinks, all sloughing and gangrenous omentum tied off and removed and the cofferdam drain, as above described, is accurately placed. The after treatment of such cases is practically the same as before outlined.

In conclusion, let me say that I feel it a duty incumbent on every surgeon to teach and urge the importance of early operative treatment of this condition.

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FRACTURES OF THE WRIST*

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There are few fractures in which the direct results of proper treatment are more apparent than in the wrist. I have treated many different kinds of fractures, but have observed more fractures of the wrist than any other. In speaking of fractures of the wrist, I mean the breaking of the bone within an inch of the joint, and anterior or posterior to it.

During 1914, 57 cases of fractures of the forearm were treated at the surgical department of the New York Polyclinic Hospital, and 25 of this number were in the extreme lower end of the radius, and 8 in the lower extreme end of the ulna—a total of 33 fractures of the forearm at the wrist.

Most fractures near the wrist are of the radius and most of those near the elbow are of the ulna.

The line of fracture occasionally runs in such a direction as to enter the joint, or there may be a separation of the epiphysis of the radius or ulna in children, or before the age of 20. The next infrequency is a fracture of the styloid process of the ulna, which is often broken in connection with a fracture of the radius or the inferior radio-ulnar articulation may be separated at the time of the fracture.

Anterior to the joint we most frequently encounter fractures of the scaphoid semilunar and the cuneiform bones which are usually caused by direct violence. This brings to my mind a case that I observed two years ago, a fracture of the carpal bones, and at the same time a partial backward dislocation of both radius and ulna, as the result of the wrist getting caught between two logs. Nothing is so satisfactory as a Roentgen-ray picture of such injuries, as carpal fractures are very rare, and, occurring at the time of the dislocation, may be overlooked and the fracture not properly treated.

I also recall 2 cases of fracture of the lower end of the radius, and as a complication a forward dislocation of the ulna in one case, and a tear fracture of the styloid process of the ulna in the other, for which we must look out.

Fractures of the radius and ulna are most frequently caused by falls on the hand when it is hyperextended. The lower fragment is most often displaced backward, owing to the force coming from in front and extending backward, but we may have it displaced in any direction.

A very common cause at this time is the backfiring of the automobile in which the reversing crank carries the hand back to hyperextension. I have observed only one case of this kind, and that was in a physician at my home last October. This injury usually presents a very ugly picture but still it is possible for it to occur without a resulting deformity, as was the case in this instance, requiring a radiograph to clear up the diagnosis.

When called upon to treat a case of wrist injury, we should always compare the injured to the uninjured wrist and look for deformity, which in fracture is usually present in the silver fork form. We should then look for dorsal displacement of the distal fragment. We next note whether there is any impairment of supination, pronation, adduction and abduction; there are many things to be determined by palpation. We note the position of the styloid process of the radius, which naturally extends lower down than that of the ulna, so that in case of fracture we usually find it drawn up even with or a little above the ulna. Pain is always



Fig. 1.—Preparation of splint.

present and usually quite severe, but crepitus is frequently absent until after an anesthetic is given. We examine the injured wrist for localized tenderness above and below the joint, this being best detected above by pressing on the radius or dorsum of the radius and ulna. If tenderness be not definitely localized but extends over the entire joints and particularly over the articular surfaces of the anterior and posterior sides of the wrist, in the absence of other symptoms I would call it a sprain of the wrist. However, I believe if more sprained wrists were well Roentgen-rayed we would find fractures that are otherwise overlooked. We have but little difficulty in distinguishing fracture of the shaft from wrist fracture by the location of pain and tenderness, and crepitus is easily detected without an anesthetic.

Dislocations are also easily differentiated, as the two styloids retain their usual relation to each other, and deep pressure on the ridge or dorsum of the radius does not cause pain. However, any injury to the wrist, no matter

* Read at the Fourteenth Annual Meeting Frisco System Medical Association, Springfield, Mo., May 24-25, 1915.

how trivial, should be regarded with suspicion until it is found that fracture is absent. I believe that the majority of these cases can be diagnosed clinically, and should be reduced at once, but a fluoroscopic examination should be made if possible after reduction, and repeated in a day or so to see that the fragments are in correct apposition and remain so.

After we have located the fracture, the next thing to consider is the reduction and the method of treatment that will give the best possible results. The patient should always



Fig. 2.—Molding splint to arm.

be fully anesthetized (nitrous-oxide gas will suffice in the majority of cases, although in alcoholics morphin and ether may be required). In reducing a fracture at the lower end of the radius, with the back of the patient's hand upward, the operator grasps the hand and forearm so that the thumb nails of the two hands are in touch immediately over the line of fracture. The patient's hand is now subjected to extreme extension by bending it backward at the line of fracture until the dorsum of the hand and the surface of the anterior fragment is practically at right angles to the axis of the forearm. This manipulation entirely relaxes the heretofore tense fibrous band which has prevented reduction, and unlocks any partial impaction. If now, at this juncture, the thumb of the upper hand is pushed down in the direction of the back of the radius until it comes in contact with that which is holding the lower fragments, this pressure will slide the broken piece forward into its position, then the hand is carried into a slightly flexed position and a little to the ulna side where it is fixed. You can determine the degree of reduction by the relative position of the styloid processes to each other, the prominence of the ulna and the non-disturbance of the radio-carpal articulation. I have reduced and treated the most of my cases without a radiograph, although I think it advisable to have one.

The next thing to do is to secure fixation, and if reduction is complete it requires but little splinting to keep the fragments in their relative position. Usually something to pre-

vent hyperextension is all that is necessary. I use only one splint for fractures of the lower end of the radius and ulna, and that is a dorsal splint made of plaster of Paris which extends from the metacarpophalangeal joint to within three or four inches of the elbow. A very simple and efficient way of preparing this splint is as follows: Take a three-inch plaster-of-Paris bandage, place in warm water two or three minutes, or until thoroughly wet, then spread on a smooth surface a layer of the bandage the desired length and on this other layers should be placed, smoothing with the hand each time, until a sufficient thickness is obtained (usually three or four layers will suffice). Before it hardens, place directly on the dorsal surface of the forearm and hand so that it can be properly molded to the desired form, care being taken not to push the ulna too far forward. This splint is held in position by a roller bandage snugly applied to the forearm. In this splint you have one that is easily removed; the smooth dorsal surface on which to apply it, and entirely away from the nerve and blood-supply of the arm. The wrist should be placed in a sling resting upon the ulna side with the hand supported. I always leave the fingers free, and instruct my patients to use them freely from the beginning. I remove the dressing every few days, inspect the arm, bathe it in alcohol and re-apply the dressing. This



Fig. 3.—Fixing splint to arm.

will keep the wrist from becoming stiff as the result of adhesions. I begin passive motion and light massage at the end of 10 days. At the end of three weeks I remove the splint and support the arm with a bandage. I have treated a number of fractures in this way with very satisfactory results.

In fracture of the carpal bones, reduce by traction and pressure and immobilize the parts with a palmar plaster-of-Paris splint in addition to the dorsal one. In fracture of the wrist, by all means keep the case under observation.

THE JOURNAL

OF THE

Missouri State Medical Association

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JUNE, 1916

SPECIAL TRAIN TO DETROIT

A special train for Missouri doctors and their wives attending the Detroit meeting of the American Medical Association will be made up at St. Louis and all Fellows are invited to join the party. The train will leave St. Louis over the Wabash Railroad, the "official route," at 6:00 p. m., Sunday, June 11; arrive Detroit, Monday, June 12, 7:00 a. m. Physicians in Kansas City and the western part of the state and from Kansas, by taking the Wabash at Kansas City, can join this train at Decatur, Illinois, or at St. Louis. Quite a number of physicians from Arkansas, Oklahoma and Texas will join the party at St. Louis. Fellows desiring to reserve space on this special train should communicate at once with Dr. E. J. Goodwin, Transportation Committee, 3517 Pine Street, St. Louis.

EDITORIALS

THE MEETING AT EXCELSIOR SPRINGS

The 59th annual meeting of the Missouri State Medical Association, held at Excelsior Springs May 8 to 10, was attended with gratifying success from every standpoint. The attendance was large and represented almost every section of the state and the keen interest in the scientific program bespeaks the growing enthusiasm in the conduct and welfare of the society. The guests were well housed and entertained by the local committee of arrangements, the sessions were conducted in a serious and dignified manner and the meeting from start to finish was a very pleasant and profitable affair.

The attendance in the House of Delegates was very large, there being 57 counties represented, and the keenest interest was shown in the transaction of the Association's business and the discussion of all matters of interest and importance toward strengthening the organization and extending its field of usefulness for the benefit of public health throughout the state. It was gratifying indeed to observe the unanimity with which the delegates urged the casting of the Association's influence for clean and wholesome

legislation in state medical laws and the conduct of the eleemosynary institutions. The reports of the various committees showed strong activity in every department and that the Association as a whole is in a substantial financial condition.

Again the "Public Health Sunday" was a decided success. All the churches opened their pulpits to our members and in five churches lectures were delivered both morning and evening. It is estimated that 1700 people heard these lectures.

The County Secretaries' meeting was unusually interesting. All honor to the County Society secretary, for he is "the man behind the gun" and always on the firing line. The banquet to the secretaries was most enjoyable.

The House of Delegates convened early Monday morning and remained in continuous session until 6 o'clock. The House held another session on Tuesday at noon and a third session on Wednesday. Several amendments to the by-laws were adopted, the Works resolution in Congress was condemned and our senators and representatives requested to use their efforts to defeat the measure, and plans were adopted for ascertaining the attitude of candidates for governor and lieutenant-governor concerning the removal of eleemosynary institutions from politics. Twenty councilors were present and found themselves crowded into a small room because of the lack of assembly rooms. This did not interfere with the transaction of the Association's business, although later the Council held its meetings in the sun parlor where both light and space were more generously supplied.

The scientific program proved highly instructive and very interesting. The folly, however, of crowding the program with too many papers was again demonstrated when discussions had to be discontinued on the third day. The program contained 43 papers and only five essayists failed to appear at the meeting, one of these being the lamented Dr. J. E. Hunt, who died after the program had been printed and before the meeting convened. Two other members did not read their papers, although they registered at the meeting, as they were compelled to leave before their papers had been reached.

A motion in the House of Delegates to authorize the Committee on Scientific Program to invite some renowned speakers from other parts of the country to address the annual meeting failed to carry. In the discussion the preponderance of sentiment was strongly in favor of limiting our scientific work to contributions from our own members. From the expressions heard at this meeting it is evident that Missouri has an abundance of talented workers and that our annual meeting is the place for them to announce the progress of medicine in Missouri.

The memorial session on Tuesday night met with general approval and was an occasion when the good deeds and the faithful services of our

deceased members were praised and their loss deplored.

The election of Dr. J. Franklin Welch as President was a unique demonstration of the great popularity of our former treasurer. Without a moment's hesitation, following his nomination by Dr. Jabez N. Jackson, nominations were closed and the secretary was ordered to cast the ballot for Dr. Welch. Before the secretary could carry out this order a rising vote was called for and the members spontaneously rose to do all honor in their power for their fellow-member. The secretary then cast the ballot of the Association for Dr. Welch, which was followed by calls for a speech to which Dr. Welch responded.

On Monday morning when the House of Delegates convened the attendance was 125. By Monday night the registration had reached almost 200 and at noon on Tuesday the grand rush was on, the registration Tuesday evening mounting to 402, and when the registration bureau closed on Wednesday the total registration was 460.

The Committee on Arrangements provided everyone who had not reserved accommodations with rooms and were assiduous in looking after the comfort and entertainment of their guests. The ladies were splendidly entertained by the wives of the Clay County physicians and the secretaries' wives were guests at the secretaries' banquet. The general satisfactory conduct of the meeting made it a great temptation to accept the invitation to return to Excelsior Springs next year but it was decided to go to Springfield for the next meeting.

The full text of the proceedings will appear in the July issue of *THE JOURNAL*.

FEDERAL AID TO MISSOURI IN RURAL SANITATION

Recently the United States Public Health Service was requested by the State Board of Health of Missouri to undertake a demonstration in rural sanitation in one of the counties of the State. Three counties located in different sections were visited for the purpose of determining which offered suitable conditions for making this demonstration. Clay County was found to have a population residing on farms and in small towns, and therefore rural in character. The President of the State Board of Health, who is a resident of Clay County, is particularly interested in having a Federal demonstration of rural sanitation made in the State, in order that the other counties may have a practical example of the methods and value of rural sanitation. A number of States have requested such demonstrations by the Public Health Service, and these requests are being complied with as expeditiously as practicable.

It is not feasible, of course, for the Government to make a demonstration in every county, but it is hoped that a demonstration can be given in every State for the specific purpose of aiding the State and local authorities in demonstrating to the rural communities the practical value and methods of good sanitation.

The demand for this work is so great that the Public Health Service has given especial attention to it. A large and fully equipped Public Health Laboratory has been established at the U. S. Marine Hospital, St. Louis, for use in connection with the rural sanitation studies throughout the country.

Rural communities are becoming more populous, and the increased facilities of transportation are bringing the people into more frequent and closer intercourse, so that it is extremely important that the matter of general sanitation in these communities should be brought up to a proper standard in order to control communicable diseases which are apt to follow such conditions. The great problem is to demonstrate to the residents in rural communities the necessity and the value of practical sanitation, and the difficulties of doing this are far greater than can be appreciated by those who have not actually engaged in the work. The success of the Public Health Service in this line of its educational and cooperative work offers great hope that the demonstrations which it is now carrying on will in due course of time operate to bring about conditions which the rural communities will recognize as having highly desirable financial value. Those living on farms and in the villages realize how much time is lost from work annually on account of preventable illness, but it has almost become second nature to expect such losses. One of the principal objects of these demonstrations is to show that hygiene is a valuable aid in money-making and money saving.

It is intended not only to demonstrate practical methods for eradicating the existence of preventable diseases, but especially to create and maintain sanitary conditions which will greatly lessen the liability of such diseases being introduced into a community. The fact that a community has always been healthy is no guarantee that it will continue to remain so, and particularly when the density of population and more frequent travel and intercourse render the community more subject to infection.

A large number of persons visit Clay County annually, and many of them spend their vacations in camps. The necessity of demonstrating to the summer vacation campers the necessity and ease of practical sanitation is well known to everyone, not only as it affects the health of the campers but as it affects the health of the permanent residents of the community where the camps are established, and the health of the communities in which these campers are themselves permanent residents. It often happens

that certain convalescents go to summer camps in order to recuperate more rapidly, and it is an accepted fact that the infected dejecta of such persons may initiate an epidemic among the campers and among the residents in the vicinity. Again, it is a matter of common observation how the vacationist may contract disease and carry it back to his own community. It is therefore desirable to demonstrate how such dangers may be guarded against.

The demonstration in Clay County, then, will be able to reach a large number of summer visitors, many of whom come from other states, as well as to the permanent residents of the county, so that the work will partake of the nature of a summer school of instruction, first, in the potential dangers of insanitary conditions, and secondly, in the practical methods of rural sanitation. These efforts along the line of preventive medicine not only appeal to the local members of the profession, who uniformly give their active support and cooperation, but to the business men and farmers of the communities who realize the practical value of adopting hygienic methods. The State of Missouri is to be congratulated in having the Government render this valuable aid in the interests of rural communities.

DETROIT SESSION OF AMERICAN MEDICAL ASSOCIATION

The 67th annual meeting of the American Medical Association convenes at Detroit, June 12-16. The first day will be devoted to the business of the organization by the House of Delegates and the general meeting, which is the beginning of the scientific assembly, will open at 10:30 a. m., Tuesday, June 13, at the Lyceum Theater. At this meeting the president-elect, Rupert Blue, of Washington, D. C., will be installed and deliver his address. In the afternoon on the same day, at two o'clock, the fifteen sections constituting the scientific assembly will convene at the places arranged for them. The House of Delegates meets in the Wayne County Medical Society building. Fellows who are not members of the House are privileged to attend these meetings.

The Registration Bureau, located in the Detroit National Guard Armory, is open from 8:30 a. m. to 5:30 p. m. Fellows are required to register before they can obtain a badge or program so it is important to register early after arrival because only Fellows wearing the badge will be allowed to take part in the proceedings or be admitted to the numerous entertainments that have been provided for the guests.

In the scientific assembly there is the usual wealth of contributions, among them sixteen papers by Missouri Fellows.

The transportation facilities from Missouri are exceptionally attractive over the Wabash Railroad, which has been chosen the "official route" by the St. Louis Medical Society. This is the only line that offers a diverse route from St. Louis or Kansas City, which is made possible because the Wabash owns its own rails between these cities and Chicago and between Chicago and Detroit.

The meeting promises to be one of the most interesting and entertaining as well as one of the largest in point of attendance in the history of the Association. Full information concerning hotels, meeting places and the scientific program may be found in the *Journal of the American Medical Association* for May 6.

OCCUPATIONAL DISEASES

Occupational diseases of the mining industry have not received, in this country, the attention they merit. For several years the prevalence of consumption among the Joplin miners has been a matter of common knowledge to the people in that part of the country and to the mining profession in general. The report of the Queensland (Australia) Commission on the Health of Miners, and the prevalence of pulmonary diseases among them, issued in 1911, states: "In the United States of America no systematic official investigation into the incidence of occupational diseases appears as yet to have been undertaken." This Commission then quotes from the National Conference on Industrial Diseases held in Chicago in 1910, as follows: "There is evidence that serious conditions in this respect (dust diseases) prevail in some of the lead and zinc mines of Missouri and in the deep mines of Utah and Nevada, but no official inquiry has ever been made to determine the facts which require to be known. We have practically no information whatever regarding the health of coal and metal miners in this country." While this statement is almost as true now as when made six years ago, it is a matter of congratulation that the U. S. Public Health Service, in cooperation with the Bureau of Mines, has been able to inaugurate investigations of miners' diseases as evidenced by the article in this issue dealing with the nature and prevalence of miners' consumption in Jasper County. Miners' consumption is a serious medical and economic problem in this state. Already Jasper County has voted \$100,000 worth of bonds for a sanatorium to take care of the victims of rock dust, and it is probable that before very long compensation and sickness insurance laws will be necessary to deal with this evil.

While the mine operators are endeavoring to do away with rock dust underground, its effects will, at best, be a burden on state and

county for some time to come. The attention of our readers is particularly directed to the necessity of making accurate death reports in cases of miners' consumption. On accurate knowledge alone can proper remedial measures be based, and correct vital statistics is the key-stone of accurate knowledge in matters of public health.

ST. LOUIS MEETING OF THE AMERICAN UROLOGICAL ASSOCIATION

The Fifteenth Annual Meeting of The American Urological Association, held in St. Louis at the Planters Hotel, April 17-19, was pronounced a success from every standpoint. The attendance was quite up to the standard for the Middle West, there being one hundred and thirteen present exclusive of a large attendance from St. Louis. The local profession showed their usual liberality and interest in assisting the Committee on Arrangements to provide ample entertainment for the visitors. An auto ride, dinner and entertainment at Sunset Hill Club was pronounced by the visitors to be one of the most complete evenings the Association had ever enjoyed. As the evening wore on one of the visitors became strong in the expressed opinion that St. Louis should be made the permanent meeting place of the Association, that there should be a meeting every six months, and that the scientific program should be abolished.

Two luncheons were given the Association at the Planters and the annual banquet was held there on the evening of the 18th. The Association was particularly fortunate in the selection of speakers on that occasion. Dr. Edward L. Keyes, Jr., of New York, President of the Association and toastmaster, read a poem which was enjoyed by all. The second speaker was Mr. Chas. Zueblin, of Boston, whose subject was "The United States Peace Maker or Pace Maker," a brilliant and masterly address. The last speaker, the Reverend Dr. Bitting, Pastor of the Second Baptist Church, although assigned a difficult place on the program, carried the members away by his wonderful flow of wit and oratory.

The unusual features of the meeting were the special invitation to members to bring their wives who were entertained by a ladies committee and the golf contest given at the Bellerive Club at which Dr. Robbins, of Detroit, carried off first honors and a handsome cup.

Dr. Frederick W. Robbins, of Detroit, was elected president and Dr. Henry L. Sanford, of Cleveland, was reelected secretary. The next meeting goes to Chicago and the St. Louis members wish for them the same consideration so graciously accorded us.

FRANK J. LUTZ, M.D.

With the death of Frank J. Lutz the medical profession in Missouri has lost its clearest thinker, its most valuable executive, its ablest adviser. Dr. Lutz was not a reformer; he was a constructor, and he did more for organized medicine in this state than any man of his generation. To the rank and file of the profession he did not use his position of prominence to appeal for material to swell the practice of his profession, but he labored to interest them in each movement that would advance the profession and establish it on the high plane of influence and dignity which it deserves. His work throughout the long years he was connected in an official capacity with the State Association gave this organization its greatest strength. He was a born leader, capable of recognizing the special abilities of his associates and directing them along avenues where they accomplished the most. He was a wise counselor, grasping the essentials of a problem and without hesitation giving his opinion, which usually encompassed the situation. When once his mind was made up he was active and persistent in carrying out his ideas, and he had a highly developed and effective facility in expression which helped to advance his cause and overcome opposition. His great knowledge of men and conditions made him the dominant factor in most gatherings and he delighted in the exercise of this power.

From 1893 to 1897 he served on the State Board of Health and instituted a movement to elevate the character of the profession of the state by raising the requirements for admission to practice. After an interval of a few years he again became a member of the State Board and through his initiative the requirements for practitioners were raised to a point where many of the less desirable medical schools found it necessary to go out of business. During both these periods he was using every effort for the passage of better laws regulating medical practice. His influence at Jefferson City has preserved intact many of the medical rights of the public, not the least of which was the vital statistics law, and the defeat of many of the dangerous cults which have sought to obtain recognition from the state.

Dr. Lutz' knowledge of the political situation throughout the state helped greatly in shaping the legislative campaigns when favorable or unfavorable measures were under consideration. As a younger man he had engaged in the political activities of his neighborhood and had shown himself to be a power. At this time he was appointed by Governor Crittenden a member of the Police Board of St. Louis.

His medical career began after his graduation from the St. Louis Medical College in 1876. Later he became an instructor in anatomy in this school and for several years he gave a



FRANK J. LUTZ, M.D.
Born 1855. Died 1916.

A handwritten signature in dark ink, appearing to read "F. J. Lutz". The signature is stylized with a large, looping "L" and a horizontal line extending to the right.

course of lectures on surgery at the University of Missouri. He later became identified with the Beaumont Medical College, and at the time of the coalition with the Marion Sims Medical College he was dean and professor of surgery at the Beaumont. After remaining with the combined schools which formed the Medical Department of St. Louis University for several years, he resigned and was later appointed clinical professor of surgery at the Washington University Medical School, which position he held at the time of his death, each year delivering a course of lectures.

Shortly after entering the practice he became surgeon-in-chief to the Alexian Brothers' Hospital, which had been started a few years before. He devoted much time to the development of this institution. Later his practice was carried on largely at the Josephine Hospital, which had been established for him. At the organization of the Barnard Free Skin and Cancer Hospital Dr. Lutz became a visiting surgeon and much of his time was devoted to that institution.

In the late eighties the St. Louis Surgical Society was formed and Dr. Lutz became its secretary, which office he occupied at the time of his death. In the meetings of this organization he was in his happiest mood, and gave expression to his surgical opinions gained from a long and active practice. At various times he had as guests of the Surgical Society the most eminent surgeons of America. In this group of men he inaugurated the move for the foundation of the St. Louis Medical Library, later enlisting the interest of other leaders in other branches in the profession. In 1899 the library was founded, chiefly through his activities, and he took over the arduous task of librarian and also acted as trustee until 1913, when the St. Louis Medical Society took it over. His love of medical literature was evidenced in many ways, and he felt that St. Louis should enjoy the privileges of reference to the medical thought of all places and times. The department of medicine in the St. Louis Public Library was not as complete as it should be, and in its location it was not convenient to the members of the profession and it did not represent an activity or responsibility of the profession. This department was turned over to the keeping of the new St. Louis Medical Library. His untiring devotion to its upbuilding leaves it a lasting memorial to his memory, and fortunately in his lifetime he had the satisfaction and pleasure of knowing that his labors had been appreciated when a tablet in the hall of the library was unveiled Jan. 29, 1916, on which is inscribed the following tribute: "Doctor Frank J. Lutz, whose intelligence, foresight and devotion as Librarian made the St. Louis Medical Library. Erected by Members of the St. Louis Medical Society, MDCCCXV."

He numbered countless friends throughout the country and abroad, but one of the most

distinguished was Dr. Billings, at one time Librarian of the Surgeon-General's Library in Washington. On the occasion of one of his visits to the Capitol he was able to be of great aid in preserving this greatest of medical libraries in its entirety for the profession of America. Dr. Billings told him that the lower house of Congress was to vote the next day on a measure whose object was to abandon the library, and that the leading advocate of the measure was a congressman from St. Louis. With this man he immediately sought an interview, and finding the usual arguments unsuccessful, he threatened him with defeat at the close ensuing election, and as this man recognized the political influence of Dr. Lutz, he came out the next day in opposition to the measure, and his change of front influenced a number of votes which led to the defeat of the measure. Many years later the St. Louis library profited by the liberal exchange facilities offered by the Surgeon-General's Library in Washington. Besides helping to build up the library for the profession and making great personal gifts to it and inducing others to help, he enjoyed the pastime of collecting a large and valuable library of his own. He collected from time to time some of the most famous and rare volumes of medical literature. His enjoyment in this led him to gather a group of kindred spirits into a St. Louis Medical History Club. In these meetings he showed the widest knowledge and keenest interest in the writings and lives of the fathers of medicine and surgery, and in the papers and talks before this group he showed the highest development of his lucid style, and was an inspiration to all to keep alive a side of medicine that makes for a loftier viewpoint.

In 1887 he was elected President of the Missouri State Medical Association and from that time and even before, he was a power in the medical activities of the state. Soon after the reorganization in 1903 he became chairman of the Judicial Council, and in this capacity has directed the organization. In 1903 he was a member of the House of Delegates of the American Medical Association and has been a Trustee of that body since 1910. Although he realized he was seriously ill, he insisted on making a trip to California last June to attend the Trustees' meeting of the American Medical Association, and then it was that a serious break came in his circulatory compensation. He returned home to a long period of convalescence and although not well, he insisted on attending a meeting of the Board of Trustees of the A. M. A. in Chicago just a few weeks before his death.

In 1889 Dr. Lutz was elected President of the St. Louis Medical Society. To this organization he gave unsparingly of his time and effort. Many times that the Society through some of its unskilled zealots was led into actions that might have jeopardized the high

standing it should enjoy, when the situation was straightened out and the Society led into a clear understanding of its proper course by the logical exposition of Dr. Lutz. By his dominant personality he made many friends and had many loyal followers, but he also made enemies because he never compromised with those he believed were seeking unworthy ends. As one of his friends has said: "He was a force for the side of right, decency and correct professional ideals."

In 1893 he was president of the Southwestern Association of Railway Surgeons. He was a member of the American Surgical Association, the International Surgical Association, Association of Military Surgeons of the U. S., fellow of the American College of Surgeons and the Surgeons' Club of St. Louis.

He was in sympathy with the movement to bring medical knowledge to the public for their better understanding of their ills and an earlier relief of their sufferings. To this end he gave many popular lectures on cancer and quackery, which were characterized by the self-obliteration of the man in his subject, and the easy address and clear presentation brought the subject before both lay and medical men in a way that gave them a clear conception.

Because of his habit of mind and his large experience he was considered one of the best of expert witnesses, and no man could explain an intricate surgical problem to a jury as well as he could do.

MISSOURI STATE MEDICAL ASSOCIATION

Fifty-Ninth Annual Meeting
Excelsior Springs, May 8-10, 1916

MEMORIAL SESSION. TUESDAY, MAY 9

The meeting was held in the parlors of the Elms Hotel at 9 p. m., President Woodson presiding.

PRESIDENT WOODSON: This meeting tonight is out of respect to the memory of our dead. Several members of our Association have fallen since last year's meeting, men who were in full fellowship, men who were pillars of this Association, men who were honored physicians, men of whom we justly felt proud, and I think it is the proper thing to do to have brothers who were well acquainted with these gentlemen speak of them, and not let their memory pass from our minds so quickly.

There have been some members especially selected to speak of our brothers. Dr. L. C. Boisliniere is to speak first.

DR. L. C. BOISLINIERE: Mr. President, Ladies and Gentlemen: I was requested to make a few remarks that could be generally

attributed and would be in place at this meeting, where we are paying devout respect to the memory of our dead. So my remarks have no personal allusion whatsoever, but pertain to the subject in general.

"The evil that men do lives after them; the good is oft interred with their bones." So sung the immortal Bard, but it is a sentiment to which we can in no way subscribe. Evil is essentially and purely negative; it is the negation and deprivation of the good that is due to ourselves or to our fellow men; whereas good is a positive entity and has its being which by its nature is indestructible and always true, always fit and always and eternally active. Every evil is sooner or later met and nullified by some adequate good. So the ends of justice are always subserved and satisfied. "The mills of the gods grind slowly, but they grind exceedingly fine."

In the face of dire distress and cataclysmic disaster, when all the forces for good that have accumulated in the ages of the past seem to have gone down in utter rout and defeat, and the world seems to have sunk to the very hell's subsoil of savagery and depravity, nevertheless "hope springs eternal in the human breast," for we know that "Truth crushed to earth will rise again"; that the Prince of Darkness will never prevail, and that the example and teaching of the Holy Nazarene has not been in vain. Therefore, the effectiveness of the human race is to be measured not by the evils that are permitted and suffered, but by the accumulated good that is stored up in the depository of human accomplishment by every act of every individual every time he exercises the highest functions of his being—that of apprehending the truth and willing the good. To every man is given the right, the duty and the privilege of adding his mite to this depository.

To the physician in an eminent degree is accorded the opportunity of augmenting this deposit, the only absolutely valuable and indestructible human asset. In following his avocation he seeks not first his own aggrandizement, but the good he can do to his fellow beings. His life is one of daily self-abnegation, actuated by motives truly Christian and utterly altruistic, and which necessarily result in the acquisition of the fundamental virtues of justice, temperance, fortitude and mercy, in the exercise of which he finds his adequate and oftentimes only reward.

If the value of a human life is to be measured and estimated by the truly good that has been accomplished therein, how invaluable then were the lives of those in whose memory we are gathered can be amply testified to by those who knew them best and loved them most. For the good deeds of the doctor go unrecorded, unrecognized and unheralded. It is eminently fit that this organization should pay just and due

tribute and freely acknowledge its debt of gratitude to the memory of those whose lives were replete with good deeds as a result of their unswerving fealty to those precepts for which we stand.

For, be it known, membership in the Missouri State Medical Association is a badge that should be worn only over a heart whose every impulse is in accord with those lofty principles the observance of which not only ennoble but alone makes the practice of medicine worth while. The regular medical profession, in accord with these principles, is self-eliminative and self-purifying, and he who has lived up to them has attained all that is highest, all that is noblest, and all that is valuable in human endeavor, and needs no other epitaph than the simple word "Doctor." (Applause.)

DR. A. W. McALESTER: President Woodson, at your request I submit a short tribute as a memorial from the State Medical Association commemorating some of the good deeds of our departed brother, Dr. F. J. Lutz.

Dr. Lutz is a historic personage; as such I shall confine myself largely to his attitude to his profession and to the public. His surgical work, based upon his capacity to recognize pathological conditions and to act wisely, had but few superiors. This I leave to others. He was a man of large experience, both in affairs pertaining to the betterment of his profession and to the betterment of society. His oratory was not from the school of the elocutionist, but was a rich and cultured gift of nature; his ideas clearly fixed in his own mind, these just as clearly and concisely expressed so his hearers could not mistake his position. Elements that made him a teacher of surgery and carried conviction to his audience. Our state is rich in his literary and instructive productions. The founding of the library of the St. Louis Medical Society was due to his unselfish love of learning, veneration of culture, pride and delight in things of mind. The library of to-day is the "lengthened shadow of one man."

In this struggle for betterment his fight was not so much force spent to destroy existing conditions but to offer a far better substitute which appealed to all as a self-evident proposition, and the change occurred often before his opponent realized the effect. These qualities he carried to our State Legislature. In 1883 when the first State Board of Health law was passed he proved a valuable aid to such members of the Legislature as the late Dr. A. E. Donalan and Dr. O. A. Williams who gave much of their valuable time in passing this first recognition by the State in enacting this health law. At each recurring Legislature Dr. Lutz was there seeking to better that law, recognizing that organization of the entire profession was a prerequisite throughout the state to that end. Result: 1901 the passage of the Hall Bill.

Let us consider a few points in this pioneer stage leading to close organization. The men who took an active part in this pioneer period of medical education are rapidly passing away. Such men when they die are losses to the world. It was a period calling for unwearying energy, clear judgment and almost prophetic forethought to blaze out the highways through the wilderness of proprietary medical education (if the word education could be so applied). This form was an incubus to true science and had to be numbered with the things that were, before a scientific educational system could be made practical. A system which would elevate the medical profession of Missouri to the front rank to become the pride and admiration of our sister states, then to do our part for suffering humanity for making safe our rapidly growing commercial relations. Thanks to the great Pasteur.

Dr. Lutz was active in this period; he was made president of the State Board of Health for four years, from 1893 on, working under a very weak law. No less than thirty-seven such schools have existed in Missouri giving the M.D. degree during my short life—M.D. "was a hissing and by-word." Something had to be done though the law was weak. Then Dr. Lutz's organizing ability was felt for good. The executive board doing most of the work concluded that enforced preliminary requirements would bankrupt such schools. When the preliminary requirements were written and handed to him as president of the board, I said to him: "Doctor, do you realize that this will kill your Beaumont School and will cause a great and combined storm on your devoted head. Are you willing to bear it?" He turned to me saying, "Mc, let the Beaumont go and all of its ilk; the sooner the better. Let the storm come, I will meet it and welcome, just so it kills all; medical education has to go to the State University and heavily endowed universities." Is there a thought in this of his individual aggrandizement? This, coming to light after his death through the only living witness.

One more personal incident. The last conversation I ever had with the late Dr. W. B. Dorsett was at the Joplin meeting. Dr. Lutz passed us waiving his hand in recognition. I remarked to Dr. Dorsett: "Dr. Lutz will never have the just credit accorded him of his love and untiring work in behalf of his society for betterment, of his labor of love for the betterment of medical education in this state." Dr. Dorsett turned to me with an earnest expression and said: "Mc, Lutz is a far better man than either of us; we each have a son to bring us here to our annual meetings; Lutz has only his love for his profession, love for a well organized body that great good to man may come out of it."

Dr. Lutz erected his ideals, and as fast as he approached them he raised those ideals higher.

Advancement can only be made by having ideals. In medicine it is that ideal of the man that "God created and breathed into his nostrils the breath of life and he became a living soul to subdue the world." Man, then, is a great borderland where two great empires meet, that of mind on one part and matter on the other. This mind, the living soul, the image of God, the Infinite, knows no bounds; this mind we here commemorate to-day. "Tell me, my soul, can this be death." We know not that it will reach our brother who has gone to the land "from whose bourn no traveler returns." We do this for the present, the living age, for the oncoming generation that they may know we appreciate and encourage growth for the good of that mind that God created in his own image.

As a good citizen Dr. Lutz did his full duty. He rose equal to the demands of the age in this the greatest Republic of all time, ever ready to aid his party to select and elect good men to make and administer good laws, holding state superior to all parties, loyal to his city, loyal to his state, loyal to America. He had the true ideas as to what constituted Americanism, Jeffersonian, yes, upon general intelligence depends our perpetuity and future growth, the preservation of our school system intact. What then constitutes a state? Proud as Missouri is of her unbounded physical resources which make her the peer of her sisters, prouder still is she of the "men who their duties know, but knowing their rights and knowing dare maintain." He lived in deeds, not words. Who then, may I ask, is ready to take up these pioneer ideas based upon the great fundamental principles for the betterment of man; to add new ones, to go into the unbounded research fields to subdue the world?

"Cold in the dust the perished heart may lie;
But that which warmed it once can never die."

DR. C. LESTER HALL: Mr. President, Ladies and Gentlemen. I had thought that I would come at the end of the program, when much had been said about our beloved friend, Dr. Lutz, and of our other great friend whose memory we revere, Dr. Dorsett. However, the most elegant address of Dr. McAlester has given you an insight into the true character of our departed friend, a man who worked with zeal but never tired in doing good for his profession, whose memory is a monument to his name and at whose shrine we all worship, Dr. Lutz. I have known him intimately for many years and when I met him at San Francisco last June and saw the stamp of the inevitable upon his face, I mourned, and still mourn, as one who has lost a brother.

Dr. Lutz, never tired in working for his profession. It seemed to be paramount in his thoughts, and I have seen him assailed in our Association for positions he had taken, and I have seen him, in the most gentle way and yet with a force that was unequalled by any other

member of this Association, renew the charge and win the day. He was a ready speaker, a clear thinker, and an endless worker.

Our other friend, Dr. Dorsett, whose memory we all so love! Think of them, both of them ex-presidents of this Association, both of them high-minded, with high ideals, with exalted thoughts, giving of the best that was in them, and they were both men of power and ethical to the core, true to the heart, ever working for their fellow-men.

Fellow members of this Association, we should love our brethren with whom we are associated. We are more or less our brother's keeper. Love is the greatest thing in the world. We should love each other, and we should with joy and pleasure keep green the memory of those dear friends who are gone.

In my office, at Kansas City, I have a picture that was taken at Joplin, very much as the picture that was taken here to-day. One of the comforts that I have is looking over that picture and recognizing my living and my departed friends in that group. There is Dorsett, the sensible, honest, conscientious, faithful worker; there is Lutz, the leader in any Association! There they are, and I commune with them, and I love them more and more. The picture that I have is one of the greatest comforts I possess.

Let us cherish their memories with unfailing love, with abounding love, love for what they were; cherish them and keep them green in memory's book, ever referring to them as men of true worth, genuine, untarnished gold, no dross, no contamination, nothing unworthy of the best that is in man. (Applause.)

DR. JABEZ JACKSON: Mr. President, and Fellows of the Missouri State Medical Association: I have no flight of oratory to indulge in upon this occasion, for, after all, it is not an occasion for oratory. I am glad, however, to express my appreciation of the sentiment that is back of this meeting. I have always felt that the medical profession had been oftentimes remiss in showing the evidences of appreciation of those of its members who have been worth while and who have passed on beyond. It is particularly fitting that to-night should be given this memorial meeting as a tribute to the memory of the men whom we have lost.

Dr. Dorsett was probably a man who was better known as a person to the members of the Association than practically any other man in the state; a man who, for his simple, easy, open-heartedness that once met one felt one had always known him, was known and appreciated by a large circle of friends, both in the profession and out.

In the loss of Dr. Lutz, the profession in Missouri lost the keenest mind that it has possessed in a generation, at least the generation with which I am familiar, and I want particularly to say a word in commemoration of Dr.

Lutz to-night, because I believe that the Missouri State Medical Association has lost not only its most intellectual, its most powerful, but its best friend. I am glad to say a word, because of the fact that I believe Dr. Lutz was one of those peculiar personalities whom many men fail to recognize and appreciate. Lutz was a man in whom the intellect predominated over all other characteristics and qualities. He was a man who thought keenly and clearly and quickly, and who, perhaps, oftentimes manifested impatience with those who did not see as quickly and as keenly and as clearly the best interests of the profession that he had at heart.

Dr. Lutz has been called a politician, and oftentimes that term is used in a derogatory sense of men. Dr. Lutz was a politician; Dr. Lutz was an able politician. He was an able politician because he always saw clearly what was right and had that great strength of confidence in him to fight for what was right because it was right. He was a politician, moreover, who won not by suavity nor by crookedness—because there was not a particle of suavity nor of crookedness in his makeup. He was a man who disdained even to use suavity when suavity might have been the better course; who fought steadfastly and rigorously for what he knew was right, and because he knew it was right; who fought keenly and cleanly and mercilessly.

I have known Dr. Lutz pretty intimately in the workings of this Association ever since I became a member of it. I have been associated with him in membership on the Judicial Council, I have been associated with him in committee meetings, I have met him on the floors of the Association year after year at the annual meetings; and I want to say this of Frank J. Lutz, that in all the fights, in all the political movements in which he participated, there never was one single moment, nor one single act in the life of Dr. Lutz which was selfish.

He was a man who fought ardently, who fought determinedly for what he thought was right; and I am frank to say that many times when I took issue with him I found, as others found, that Lutz was right, because he had the penetration to see to the bottom of what was before him. He was efficient in a legislative way. There is no man, and there has been no man since I have known the profession, that had the power and the capacity, and the genius for organization to go before the Legislature and get those things for which the medical profession was fighting; and there will be many a day before we shall see an equal to him. We have lost in Frank J. Lutz the best, the strongest friend that the medical profession in Missouri has possessed in this generation. And, gentlemen, I want to say this: as time goes by, we will recognize more keenly the loss than we do now.

There is a type of mentality, of which Lutz was one, that the brain dominates over the sym-

pathy and over the heart. There are many men whom we will love because they appeal to our emotions and to our heart. He appealed to our cold-blooded reason, and when that sort of man goes out of the world oftentimes it takes us a long time to really estimate the loss. When some one who has gotten close to our heart-strings goes we feel the snapping of the heart-strings; but when a man like Lutz has gone it takes time for the recognition of loss.

We are paying tribute to-night, friends, to the best and the strongest, and the truest friend that has been a member of the medical profession since I have had the privilege of knowing it. (Applause.)

DR. FRANKLIN E. MURPHY: Mr. Chairman, Ladies and Gentlemen: At the time that the report of the Necrology Committee was printed, the intelligence of the death of two members of this Association in Kansas City, had not reached the members of the Committee. Dr. Bertan H. Wheeler had lived in Kansas City for many years. He was of a family of old settlers who lived at Westport, which has become a part of Kansas City. He studied medicine in Kansas City. He practiced medicine there for nearly twenty years. He died something like two weeks ago and the Jackson County Medical Society, of which he was a member, feel a loss in his death. Those of us who knew him—and I knew him before he was a doctor—found in him a genial personality, finely combining with his professional qualifications, his business qualifications, and his loss is truly a loss in the community.

Dr. Jesse E. Hunt came to Kansas City to practice medicine something like twelve years ago, a graduate of the Western Reserve University. His practice was a special practice, that of diseases of children, and we expected a paper from him tomorrow on "Cerebral Hemorrhage in the New-Born." Dr. Hunt made a place for himself in Kansas City and his death was somewhat tragic. Little less than a year ago Mrs. Hunt died and her death rather approached the tragic.

It appeared fitting that something should have been said this evening supplementing the report of the Necrology Committee on the men of whom we have spoken this evening.

We have all, I think, felt in some sense a loss in the absence of Dr. Lutz and Dr. Dorsett, and the Association, I feel, is very much poorer for the loss of those active and unselfish workers. (Applause.)

PRESIDENT WOODSON: Gentlemen, only last week the remains of Thompson Eldredge Potter, of Saint Joseph, were laid in rest in Mount Moriah. It has been my privilege and pleasure to have known Dr. Potter all of his professional life. He was well known to a very large number of the members of the Missouri State Medical Association, and up to a very few years ago he was a regular attendant. He loved his pro-

fession and his professional life was clean. His family life was really a lovable one. He had a large family of girls and one son of all of whom he was extremely fond. He loved his medical society and was an ardent worker therein. Dr. Potter's professional life was clean. He was a model citizen and a Christian gentleman, a hard worker in the profession and it may be said of him, as was said about Paul, "he went about doing good." After a brief illness he passed away. He was an honored member of this Association, an honored member of his home society, an honored member of his church and as good a citizen as the Commonwealth had. (Applause.)

Dr. Stephen Carpenter was long a resident of the City of Saint Joseph, and a member of the Buchanan County Medical Society as well as of the State organization; an active practitioner of long standing having spent his whole professional life in Saint Joseph where he was much appreciated by the profession and friends; after a long illness, impairing his general health, he died very suddenly of apoplexy. Dr. Carpenter was a good citizen, and when in good health was an active worker in the profession, and was very fond of his profession.

DR. JOHN D. SEBA: Mr. Chairman, and Gentlemen of this Association: I cannot forebear the opportunity of speaking a good word in memory of my old friends, Dr. Lutz and Dr. Dorsett. I have known them all of my professional life, which is something over twenty years. I have known them intimately, and I want to say a word of praise for their memories and for their character.

I remember when my brother-in-law was sick with cancer of the stomach, I had taken him down to Dr. Lutz to see whether he could do anything for him and I must say that Dr. Lutz told him the truth. He said, "You have cancer of the stomach; this disease is going to kill you. An operation may do you good and it may not, but that is the only thing that will relieve you in any way. There are some men who would take your case and say that they will cure you, and they will lie to you." He went from one to another, without telling them of Dr. Lutz, and one said this and one said that, but when he came out and told them that Dr. Lutz said that he had cancer of the stomach and that nothing but an operation would do him any good, they all said he was right. I mention this case simply to show you that he had the respect of all the profession; none of them dared to disagree with him in diagnosis. They probably all knew the case as well as he did, but did not have the stamina to tell the patient to his face what was the matter with him.

A great many of us have not that confidence that Dr. Lutz had to tell a man exactly the truth to his face; but what every man is entitled to when he goes to a doctor for the truth, is the truth. We all know that sooner or later we will be laid in the cold grave, and no one knows how

soon that will be; but, gentlemen, let it always be said that it must be said of us that we lived an honorable, truthful and fearless life, and that we did not lie to our patients.

DR. J. F. ROBINSON: I had not expected to make any remarks on this occasion, but one of the gentlemen whose name you all know, who has recently passed away, Dr. T. E. Potter, was my friend and classmate in the class of 1875 of the Jefferson Medical College of Philadelphia.

In that year there were four men from Missouri who graduated in that class. One of them was Dr. Eugene Ward, of Knobnoster, who died two weeks after his return, from a mistaken dose of medicine in taking an inventory after his father's death. He died only one week after his father, who was my father's family physician. The next man from Missouri was my friend, Dr. W. G. Moore, of St. Louis. Dr. Potter's death has left me the only one of four in this state who were in that class.

I want to say in behalf of Dr. Potter that I knew him as a humble, zealous student in Jefferson College, and was so much impressed with him, and being from Missouri, that I recall I had him and Dr. Ferris of Illinois, come to the house where I was boarding with Dr. Ward, who was my roommate, and we spent the winter together. Dr. Potter told me that he was from Cameron, Mo., and had been there for three years and had not returned during the vacations, but had staid there and had been zealous in his work as a student. At the close of the session the professor of diseases of women and children and obstetrics offered a prize to the students for the best papers on the descriptive and relative anatomy of the gravid uterus. All the members of the class competed for that honor, and I want to say that while Dr. Potter and I were in the same house and both competed for the same prize with a lot of friends, and further of his efforts as a student, that at the end of the term, on Commencement Day, he received the prize of a fifty-dollar set of instruments. I have met Dr. Potter since that time only occasionally, but I regarded him as a true, faithful man, and a hard worker in our profession. (Applause.)

DR. F. A. HOWARD: I did not expect to say anything on this occasion, but I feel that I would be untrue to the memory of Dr. Walter B. Dorsett, and Dr. Frank J. Lutz if I did not. I feel that I have known them as long, perhaps, as any members of this profession. We were classmates together. I knew them in young life, and in middle life, and, you might say, in old age. I have never known two nobler men than they.

Our lives have been intimate and during all the time since our schooldays, our college days, we have kept up our acquaintance, and I have never known of any wrong that those two men have done. I feel that this Association has lost

two of its best men, and I feel, as I said before, that I would be untrue to their memories did I not bear witness to what I know of them.

DR. H. M. CLARK: I wish to speak in behalf of the privates of the Missouri State Medical Association, who have passed away. All of the members are aware of the fact that there have been a number of the rank and file of the profession who have died during this year, but there are some who might get the opinion that just these few great men in the Society died. Now I wish to ask a rising vote in honor of these members of the Association, who have done just as much as Dr. Lutz in that they did as much as they knew how or as they could—to the rank and file of the Missouri State Medical Association who have passed on. And I request that the members of the Association stand to do them honor, though their names should not be spoken at this meeting.

DR. L. C. BOISLINIERE: I would suggest, Mr. President, that Dr. Johnson read the list.

PRESIDENT WOODSON: I think that is a wise suggestion. Dr. Johnson, will you read the list?

(Dr. Johnson read the list which will be published in the transactions in the July issue.)

DR. BOISLINIERE: I would add to those names, Mr. President, that of Dr. Edgar J. Senseney, and Charles D. Stevens, of St. Louis.

PRESIDENT WOODSON: Dr. Clark has asked that the house rise to show their appreciation of these deceased brothers.

The members rose and the meeting adjourned.

RESOLUTIONS ADOPTED BY THE MISSOURI STATE BOARD OF HEALTH

WHEREAS, With deepest sorrow we have learned of the death of our friend and fellow practitioner, Dr. Frank J. Lutz; and

WHEREAS, By his eminent qualifications he had enjoyed the highest honors within the gift of the state and at the hands of his co-laborers, serving for a number of years as President of the Missouri State Board of Health and as President of the Missouri State Medical Association and at the time of his death occupying the position of chairman of the Judicial Council of the Missouri State Medical Association; and

WHEREAS, By his courteous demeanor and his unimpeachable integrity he won the respect and admiration of his associates; and

WHEREAS, By his untimely death, coming as it did at the time of his usefulness, the city, state and nation have lost one of their most useful and progressive citizens and his wife a devoted husband; therefore, be it

Resolved, That we extend to his sorrowing relatives our deepest condolence in this time of their sorrow and bereavement, realizing at the same time that no words of ours can in any degree assuage their suffering, and assuring them of our own personal loss; and be it further

Resolved, That these resolutions be copied on our minutes and made a part of our record and furnished to our State Medical Journal for publication, and a copy sent to his sorrowing wife.

OBITUARY

BERTAN H. WHEELER, M.D.

Dr. B. H. Wheeler of Kansas City, died at his home April 27, age 44.

Dr. Wheeler was a graduate of the Kansas City Medical College, 1894, and had practiced his profession in Missouri during his entire career. He was a former coroner of Kansas City, and at the time of his death was a member of the consulting staff of the Kansas City General Hospital. He had been a member of the Jackson County Medical Society and the Missouri State Medical Association for many years and was a Fellow of the American Medical Association.

JESSE EDWARDS HUNT, M.D.

Dr. Jesse E. Hunt, of Kansas City, one of the most promising physicians of that city, died at his home April 29, 1916, from laryngeal diphtheria contracted while attending the patients in the diphtheria ward of the hospital, age 38.

Dr. Hunt was a graduate of the Western Reserve Medical School, Cleveland, Ohio, 1902, and had devoted his efforts to children's diseases. He served as intern at the Lake Side Hospital, Cleveland, two years, and had practiced in Kansas City during most of his professional career. He had earned the confidence and esteem of his confreres and was passionately devoted to the relief of the suffering of children. He was a member of the staff of Mercy Hospital, professor of children's diseases of the University of Kansas Medical School, a member of the Jackson County and the Missouri State Medical associations and a Fellow of the American Medical Association.

THOMPSON ELDRIDGE POTTER, M.D.

Dr. T. E. Potter, of St. Joseph, one of the oldest practitioners in the northwest portion of the state and for many years a member of the Missouri State Medical Association, died at his home April 29, 1916, after a lingering illness, age 66.

Dr. Potter was born in Clinton County, Mo., in 1849, and obtained his preliminary education in the public schools of De Kalb County and McGee College at College Mound, Mo. In 1873 he matriculated in the Jefferson Medical College, at Philadelphia, and two years later received his diploma and the Wallace prize for a thesis. He practiced at Cameron, Mo., for eleven years and was mayor of that city for one term. In 1886 he moved to St. Joseph where he filled the chair of physiology and diseases of the nervous system in the Northwestern Medical College until 1884. He was one of the founders of the Central Medical College of St. Joseph and occupied the chair of surgery in that institution as well as in the consolidated college when the Central and the Ensworth merged in 1905. He was secre-

tary of the board of trustees of the faculty of Ensworth Deaconess Hospital Association, a member of the Western Surgical Association and a Fellow of the American Medical Association.

NEWS NOTES

MEMBERSHIP CHANGES, MAY

NEW MEMBERS

Mary J. Atherton, Springfield.
E. H. Bradley, Springfield.
Deborah Doan, Trenton.
George V. Dorsheimer, Kansas City.
Webster W. Duvalt, Shawneetown.
Jesse L. Eaton, Bismarck.
William M. Hindman, Quitman.
Paul M. Krall, Kansas City.
Frederick C. Lamar, Kansas City.
Samuel T. Mead, Slater.
Oliver J. Miller, Egypt Mills.
Watson A. Moore, Westline.
S. W. Morgan, Cape Girardeau.
George Morse, Ludlow.
William Roney, St. Joseph.
B. L. Sulzbacher, Kansas City.
Charles H. Werner, St. Joseph.
Frederick J. Wessling, Freeburg.
Arthur W. Westrup, Webster Groves.
Lee H. Winemiller, Farley.

CHANGE OF ADDRESSES

W. H. Bradley, 1111 Rialto Bldg. to Wesley Hospital, Kansas City.
Benj. Belove, Shukert Bldg. to 501-05 Chambers Bldg., Kansas City.
L. F. Biesmeyer, Bonnots Mill to Westphalia.
George W. Boteler, 716½ Felix St. to 825½ Frederick Ave., St. Joseph.
F. H. Brunig, 831 W. 39th St. to 701 Russell, Kansas City.
Frank H. Caughill, Morrison to Hermann.
James D. Davis, Louisiana to Eureka Springs, Ark.
R. B. Denny, Eureka to Creve Coeur.
M. George Gorin, Wall Bldg. to 5289 Raymond, St. Louis.
R. B. H. Gradwohl, 803 N. Garrison to 928 N. Grand Ave., St. Louis.
Eugene A. Heibner, Warsaw to Greenridge.
J. C. Lynch, 16th and Grand to 922 E. 15th St., Kansas City.
J. H. Nixon, Winchester, Va. to 6620 Kenwood Ave., Chicago, Ill.
J. C. Petit, St. Louis to 6 B Seward Rd., Shanghai, China.
J. J. Radmacher, Meta to Argyle.
S. D. Reynolds, Gower to St. Joseph.
J. Elliott Royer, Kansas City to Chicago, Ill.
John A. Rusk, Rowley, Ia., to Welton, Ia.
J. B. Scott, Marionville to Marceline.

Isaac F. Sharp, Cottonwood Point to Jonesboro, Ark.

Harry A. Simrell, Stockton to Caplinger Mills.

William A. Swearingen, Steele to Hayti.

M. B. Titterington, 4318 Olive St. to 211 Metropolitan Bldg., St. Louis.

W. T. Todd, Thompson to Centralia.

F. L. Trippeer, Beaver Creek, Colo. to Limon, Colo.

John S. Young, 4135 West Belle to Wash. Univ. Dispensary Dept., St. Louis.

DROPPED

Charles E. Barnes, Mountain Grove.

Howard K. Cowen, Ask Grove.

Robert I. Davis, Birchtree.

Emory H. Gist, Beattie, Kansas.

Wm. P. Hall, Nickellton.

Coray A. Nickett, Mayview.

DECEASED

Jesse E. Hunt, Kansas City.

Thos. E. Potter, St. Joseph.

B. H. Wheeler, Kansas City.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL, 1916

(UNDER THIS HEAD WE LIST THE SOCIETIES WHICH HAVE PAID THE STATE ASSESSMENT FOR ALL THEIR MEMBERS)

Webster County Medical Society, Dec. 15, 1915.
Benton County Medical Society, Dec. 16, 1915.
Cape Girardeau County Medical Society, Dec. 19, 1915.
Schuyler County Medical Society, Dec. 22, 1915.
Atchison County Medical Society, Dec. 27, 1915.
Clark County Medical Society, Jan. 1, 1916.
Madison County Medical Society, Jan. 10, 1916.
Clinton County Medical Society, Jan. 11, 1916.
Sullivan County Medical Society, Jan. 17, 1916.
Phelps County Medical Society, Jan. 17, 1916.
Camden County Medical Society, Jan. 18, 1916.
Dent County Medical Society, Jan. 31, 1916.
Barton County Medical Society, Feb. 3, 1916.
Moniteau County Medical Society, Feb. 7, 1916.
Henry County Medical Society, Feb. 21, 1916.
Putnam County Medical Society, Feb. 24, 1916.
Pulaski County Medical Society, Feb. 28, 1916.
Vernon County Medical Society, Mar. 3, 1916.
Ste. Genevieve County Medical Society, Mar. 15, 1916.
Cooper County Medical Society, Mar. 30, 1916.
Montgomery County Medical Society, April 4, 1916.
Ralls County Medical Society, April 6, 1916.
Livingston County Medical Society, April 12, 1916.
Macon County Medical Society, April 14, 1916.
DeKalb County Medical Society, April 17, 1916.
Wright County Medical Society, April 25, 1916.
Carter-Shannon County Medical Society, April 26, 1916.
Greene County Medical Society, April 28, 1916.
Iron County Medical Society, April 28, 1916.
Platte County Medical Society, April 28, 1916.
Grundy County Medical Society, May 3, 1916.
Adair County Medical Society, May 5, 1916.
Lafayette County Medical Society, May 5, 1916.
Cass County Medical Society, May 15, 1916.
Johnson County Medical Society, May 20, 1916.

THE BARNARD FREE SKIN AND CANCER HOSPITAL CLINICAL AND LABORATORY REPORTS

10. SYPHILIS OF THE INTERNAL GENITAL ORGANS IN THE FEMALE.*—By Drs. GEORGE GELLHORN and HUGO EHRENFEST.

It is, at present, impossible to estimate even approximately, the full extent to which syphilis exists in the world. The latest statistics which tend to show that 10 per cent. of the male population of the United States are affected, are probably far too conservative.

Syphilis has always been assumed to be considerably commoner among men than among women; but from certain investigations this supposition cannot yet be accepted as conclusive. At any rate, syphilis is common enough in women so as to constitute a gynecologic problem in the widest sense. Not every disease in a syphilitic woman is syphilitic in nature, but syphilis, if present, will exert an influence of its own on coexistent diseases. Moreover, latent syphilis prevails more in women than in men.

The course of syphilis in men differs in many points from that in women. To instance but one of the differences, the relative frequency of tabes and paresis in the two sexes is well known.

Syphilis of the internal genitals in women presents a number of problems as yet unsolved. The question of infection by the sperm of a syphilitic man is discussed, as is also the possibility of differences in the strain of spirochetes which might have a predilection for one or the other part of the female genital tract. There is, finally, the question whether certain parts of the genitalia possess a sort of relative immunity.

Primary chancres of the vagina are rare, probably because of certain histologic and biologic characteristics of the vagina. The typical signs of sclerosis of a mucous membrane, that is, parchment-like induration, persist, as a rule, only for a short time. Under ordinary circumstances, spontaneous restitution occurs after about two weeks. The absence of definite symptoms, such as pain or vaginal discharge, and the insignificance of any remaining scars, probably result, in a number of instances, in failure or even inability to correctly diagnose this lesion.

Secondary syphilitic lesions of the vagina are very rare. They occur either in the form of macules or of papules; the latter variety seem to be relatively more frequent. They have no symptomatology of their own, and therefore are discovered only accidentally during an examination with the speculum.

Tertiary luetic manifestations of the vagina also are extremely rare. They represent, as a rule, the continuation of secondary lesions in vulva, uterus or adjoining organs. The isolated submucous gumma breaks down early and appears in the form of a more or less characteristic ulcer. The more destructive processes which eventually lead to the formation of fistulas and strictures almost always originate in structures surrounding the vagina. Tertiary lesions of the vagina do not exhibit characteristic symptoms, such as pain or discharge.

The primary chancre of the cervix represents the best known and most common type of syphilitic affections of the female internal genitalia.

Its frequency has probably been overestimated. Statistics based on a large number of observations have never shown a frequency over 1.5 per cent. of all primary chancres found on the genitalia. It must, however, be admitted that in a considerable number of cases its presence on the vaginal portion of the cervix is overlooked.

The primary chancre of the cervix does not give rise to any noteworthy clinical symptoms. Therefore, as a rule, a search for it is made only after the appearance of the secondary exanthema. Under normal conditions the primary lesion heals with such rapidity that its existence in a large percentage of the cases can only be surmised from certain findings which in themselves are not characteristic.

Not even during its existence does the primary chancre offer a truly characteristic and pathognostic aspect on account of its rapid and variegated evolution from an unerooded induration to an ulcer which in turn either heals quickly or transforms into an inconspicuous erosion.

Considering the absence of palpable satellite buboes and the difficulty of ascertaining the characteristic induration of its base, a suspicious looking sore on the cervix can be identified as primary hard chancre only if the *Spirocheta pallida* can be recovered from its surface and if the cervical lesion in due time is followed by a typical secondary exanthema.

Eight personal observations have been added by the writers to the few cases, found in literature, of secondary lesions of the cervix. Syphilis manifests itself on the cervix in the form of macules, papules and ulcerations. These forms probably represent three successive stages in the development of a lesion caused by scattered accumulations of the *Spirocheta pallida* in the squamous mucosa of the cervix. The parasite can readily be recovered from the secretion of any of the three forms, and this explains the great infectiousness of secondary lesions. Wassermann is positive in this stage. Macules and papules have no symptomatology of their own, while ulcers may give rise to profuse yellowish discharge. Occasionally, a peculiar puffiness of the fornices may be present. The leukoplasic appearance of macules, the characteristic form of papules and the typical yellowish color of ulcerations render diagnosis comparatively easy. Secondaries in other parts of the body form a valuable aid. Cervical lesions, as a rule, heal quickly and may disappear without leaving any traces. Specific treatment, energetically applied, brings about resolution in a very short time.

Our actual knowledge concerning syphilitic lesions of the uterine body is extremely meager. Primary and secondary manifestations have not yet been observed in the uterus. A few instances of gumma in the uterine wall have been recorded. An isolated observation by Hoffmann proves the possibility of gummatous changes in the endometrium. This infrequency of tertiary lesions is a matter of surprise, for the uterus more than any other internal organ of the body is exposed to direct infection. Spirochetes may reach the uterine cavity from the vagina or lesions of the cervix. It is certain that an actively syphilitic mother invariably infects the fetus. In every pregnant syphilitic woman spirochetes must be present in the endometrium. Unless syphilitic lesions of the uterus have been overlooked in the past, we are forced to assume a relative immunity on the part of the uterus.

It seems possible that the tubes may be the seat of luetic lesions, but the pathologic and clinical material on record is yet too incomplete to permit of positive assertions. Spirochetes have never been found in the tubes of syphilitic women.

Various changes in the ovaries (simple enlargement, syphilitic oophoritis, tertiary sclerosis of ovary, ovarian gumma) have been described as typical expressions of the secondary and tertiary stages of luetic infections, but in no instance (with the possible exception of Hoffmann's case) has positive proof been furnished that such alterations are actually due to a local luetic process.

The fact that in some syphilitic patients either an amenorrhea or, more commonly, a metrorrhagia, dis-

* Abstract of paper published in the American Journal of Obstetrics.

appears after specific medication, cannot be accepted as evidence of a syphilitic ovarian lesion. Spirochetes have as yet not been demonstrated in the ovaries of adults.

Syphilis of the pelvic cellular tissue appears in the form of a diffuse gummatous infiltration which secondarily involves the pelvic peritoneum. To the few cases on record the writers have added a personal observation. In almost all instances a wrong diagnosis of malignancy has been made. In their own case the positive outcome of the Wassermann reaction, together with other unmistakable signs of tertiary syphilis about the outer genitals, aided in arriving at the correct diagnosis. Specific treatment produces amazingly quick improvement of an apparently hopeless condition.

Syphilis may be the causative factor of disturbed menstrual function for various reasons. Impairment of general health and disorder in the harmonious synergism of all endocrine glands through the affection of one may in the course of a luetic infection interfere with normal ovarian activity.

Therefore, in syphilitic patients specific medication may correct a menorrhagia or metrorrhagia which has proved refractory to the customary modes of treatment. Such prompt therapeutic effect, however, does not permit of a diagnosis of luetic processes in the uterus or in the ovaries, because uterine lesions probably never, and syphilitic ovarian lesions, if actually existing, are but rarely responsible for abnormal uterine hemorrhages.

The Wassermann reaction is found positive in a very large percentage of patients suffering from metrorrhagias. This is not surprising. Luetic women through the common complication with gonorrhea, and as the result of frequent abortions, are particularly prone to develop gynecologic anomalies in which irregular uterine hemorrhages represent a predominant symptom.

The writers recommend a trial with specific therapy before radical treatment is decided on for all cases in which a uterine hemorrhage is not definitely explained by local findings.

Normal cervical secretions may contain spirochetes during the secondary stage, even though there are no specific lesions about the genitals. This has been definitely proved by the writers by actual observation. The search for spirochetes may become as important a part of our diagnostic technic as is the stain for gonococci. The prognosis as to the danger from infection as well as the time of accomplished cure may depend on such an examination.

As regards the uterus, and more particularly the cervix, convincing proofs of the interrelations of syphilis and cancer are meager and we are forced, for the present at least, to rely chiefly on the analogy with other regions of the body. The following four possibilities suggest themselves:

1. An alteration of all tissues of the body caused directly or indirectly by the syphilitic virus (*Gewebsumstimmung* of Neisser), whereby the defensive apparatus of the organism are weakened.
2. Any part of the body which in the past has been the seat of a syphilitic lesion becomes a *locus minoris resistentiae*, wherein a cancer may develop.
3. Leukoplakia may represent the connecting link between syphilis and cancer.
4. The direct transition of syphilitic into carcinomatous tissue.

Microscopic sections are introduced to illustrate the probable mode of such transformation. Unless arrested in time by antiluetic treatment, atypical cell proliferation, such as stimulated by the syphilitic lesion, may lead to carcinoma.

While actual and well-established facts regarding syphilis of the female genital organs are comparatively few in number in contradistinction to the many theories and the volume of literature on this subject, yet enough is known to compel and hold the interest of the gynecologist.

Syphilis may cause organic lesions in all parts of the genital tract, such as ulcerations and tumefactions. The gynecologist will be able to properly interpret and treat such lesions only if he is familiar with the local pathology of syphilis. He may also meet with functional disturbances within the genital sphere not explainable by any local findings, which may be due directly or indirectly to the influence of syphilis.

There are close analogies between the genital organs in the male and the female from a purely developmental and anatomic point of view. The fact that the ovaries correspond to the testicles, the tube to the epididymis, the uterus to the prostate, has seemed, to many writers, sufficient to base deductions as to the pathology of syphilitic lesions in the female on their knowledge of luetic lesions in the male. Such reasoning is faulty. Syphilis, in many respects, affects woman in a manner essentially different from man. After all, there is nothing in man to compare with disturbances of menstrual function which so often confront the gynecologist.

Gynecology has, in the past, profited by the pioneer work of dermatology in the realm of syphilis. It is now time that the gynecologist should contribute his full share. There are still many mooted questions; such as syphilis without primary lesion or the pathology of local lesions in the female genital tract, which the gynecologist is preeminently fitted to solve.

He should also fall in line with the representatives of other specialties in advancing the problem of the relationship between cancer and previous syphilitic lesions in the same locality.

Familiarity with syphilitic lesions in the genital tract must needs prove of eminent practical value to the gynecologist in view of the frequent confusion in the diagnosis of cancer and syphilitic ulcerations or gummata. That occasionally a patient is subjected to a serious radical operation who could have been cured by antiluetic treatment there can be no doubt.

A more intimate interest in the problems of syphilis of the internal female genitalia will advance gynecology both in its theory and in its practice.

THE SURGEONS' CLUB OF ST. LOUIS

Dec. 22, 1915

PRESENTATION OF PATIENTS.—By DR. ERNST SACHS.

TUMOR OF GASSERIAN GANGLION

CASE 1.—The first case is a patient with a diagnosis of tumor of the gasserian ganglion. I show it because operative cases of tumor of the gasserian ganglion are up to the present time rare. In a quite exhaustive search of the literature, I find there are only six cases that have been operated on in this country; this is the fourth. One has been operated on in Italy by Professor Durante; one in Helsingfors by Krogus and one in Germany by Hofmeister. Of the prognosis and outcome of these cases I will speak later.

This patient presented herself in October of this year with a history that in December, 1914, she suddenly began to complain of pain over her left eye. The pain was at first paroxysmal, but very soon became general over the entire left side of the face, and continued with great severity. About February of this year she first noticed double vision on look-

ing to the left, and at that time she was seen and it was found that she had a decayed molar, which was extracted without any relief. She then was seen by several nose and throat men, who felt that her pain was due to sphenoidal sinus disease, and her sphenoidal sinus and her ethmoid were cleaned out without any relief. All this time she had persistent pain, and I want to emphasize the character of this pain. It was in the distribution of the fifth nerve on the left side, but not like the pain of tic douloureux; it was *continuous* and very intense, which is characteristic of all the cases described in the literature.

She came to the neurologic outclinic of Washington University in October. Dr. Schwab saw her, and at the first examination, besides the pain, she had a typical paralysis of the motor branch of her fifth nerve. On opening her mouth it deviated to the left; and she had a paralysis of her left sixth nerve which was almost complete. We made a diagnosis of probable tumor of the gasserian ganglion at that time, and sent her into the hospital.

Her urine was negative. She had no evidences of general intracranial pressure. Her eyegrounds were normal; her color fields were normal; but it was impossible to determine positively whether she had headache, because the pain on the left side was so intense that we could not tell whether it was pain along the fifth nerve or headache. There was no vomiting or other intracranial symptoms.

She was operated about October 26, with the usual ganglion incision. The only difference was that we took out more bone than we do ordinarily; and as we thought we had a tumor of the ganglion, we immediately tied the middle meningeal at the foramen spinosum, so that we could get more room. As soon as the region of the ganglion was exposed, instead of finding the ordinary cave of Meckel at its site there was a hole which was about a centimeter deep in the base of the skull, and in this lay the tumor. It was about the size of a fair-sized cherry. We started to dissect out the tumor and started at the back in the region where the sensory root ought to be, then the third branch, then the second branch, and on the inner side. On the inner side, we had to go farther than in an ordinary ganglion operation and exposed what we took to be the third and the sixth nerves. In the region of the first branch, the tumor was very adherent. Up to this time we had had no hemorrhage. In freeing the tumor in this region we had terrific hemorrhage from what I thought was the cavernous sinus. The symptoms also indicated that the tumor started growing in that region and was attached to the wall of the cavernous sinus. There was no way of stopping the hemorrhage, except by packing. We tried pressure for some time, but it did no good, and we finally had to resort to packing with cigarette drains.

At that time, the patient had lost so much blood that we had to transfuse her from her husband with 1,000 c.c. of blood. She rallied promptly after that and her pulse came back. We closed the rest of the wound, except for the exit of the drains. When she came out from the anesthetic, we found, she being a right-handed individual, that she had complete motor aphasia and a little weakness of her right hand. The question was whether we had done that with a retractor, or whether it was due to the drain. We were inclined to blame the drain. Besides that, she had a complete ophthalmoplegia of her right eye and complete paralysis of the third nerve, as all the cases operated on heretofore, and, of course this nerve paralysis is still present. She had a widely dilated pupil from her third nerve paralysis.

We removed the drain on the second day without hemorrhage and closed the wound. The patient im-

mediately began to get her speech back and in about thirty-six hours had recovered completely from her motor aphasia and her third nerve also began to recover. At the end of a week the third nerve disturbance had completely cleared up. She still has some of the sixth nerve paralysis. A few days ago, when she looked to the extreme left, she still had some double vision.

Immediately after her second operation, as soon as we were able to examine her, we found a complete anesthesia of her left fifth nerve, and the other symptoms she had which still exist is a paralysis of the left side of the tongue. I think it is quite evident that her tongue deviates to the left, and I believe that is not due to the involvement of her fifth motor branch. I think it is a twelfth nerve affair, and we are at a loss to explain why the twelfth nerve on the left side should be involved. The only explanation we could think of was either that the blood clot had gone down into the posterior fossa and involved her twelfth nerve in that way, but it was hard to explain why that would occur without an involvement of her vagi. We got Dr. Robinson to examine her vagi and he took electrocardiograph curves and tried his pressure experiments on the vagi to see whether both were intact, and he found them intact. The other possibility is that this may be a peripheral tongue paralysis, and this seems most probable.

She was completely relieved of her pain for fully six weeks. In the last three weeks she begun to complain of pain. She says it is not as severe as before operation, when she had to take large doses of morphin. Some sensation has returned, but the area of sensory loss is almost as great as at the time of the completion of the operation. The explanation for this pain is rather a difficult one. It is what has occurred in every single case reported. In the case of Dr. Spiller and Dr. Keen, in Philadelphia a number of years ago, they explained it by central pain, either that the process had involved the central region or that the pain was primarily central.

As to the pathology of this tumor, Dr. Opie studied it with great care; we in the surgical laboratory who saw it thought it was an endothelioma growth. Dr. Opie feels more certain it is endothelioma. Most of the reported cases have been endothelioma, but in all these reported there has been some nervous tissue and ganglion cells still left in the tumor. The serial sections we made of about one third of the tumor showed absolutely no ganglion cells, and for that reason we are making serial sections of the whole tumor, because it is very difficult to explain how she could have had sensation in that left side of the face if there were no ganglion cells in that tumor. I feel moderately certain we shall find some.

The question now is as to the best procedure. I do not know that there is much to see. There is the operative scar and the deviation of her mouth and tongue. On deep pressure, as in all gasserian ganglion tumors, she does have sensation in her seventh nerve, but her cutaneous sensation, I think, is completely gone.

CEREBELLAR TUMOR

CASE 2.—This boy came into the surgical outpatient department about six or seven weeks ago, complaining of dimness of vision and staggering. On examination it was found that he had a very high degree of choked disk in both eyes. He gave a history of vomiting, fell to the right, and on further examination in the hospital, where he was sent at once, he was found to have a very marked incoordination of his right hand. His blood Wassermann

was negative. There was no history of a definite trauma, and diagnosis was made of a right cerebellar tumor.

He was operated on, and in the upper part of his right cerebellum there was a tumor which was partly fluid and partly solid. It lay in the upper, outer side of the cerebellum. We have been very much interested in trying to work out the tests of Bárány on the finer functions of the cerebellum. He claims that on making his turning tests and pointing tests, one finds definite errors of inability to point in certain directions with tumors in certain portions of the cerebellum; and with a tumor in this portion of the cerebellum, he says very positively that the patient is unable to point outward with his elbow correctly. We tried all those tests and feel very well satisfied that he had no error of that sort.

The tumor extended well into the cerebellum and the extreme part of the tumor almost to the median line. It is a glioma, but it is a glioma of the type that is cellular and not glial, and is, I think, a comparatively benign sort. We got all of it, we feel quite certain, and he made an uneventful recovery except that at the time of operation, while we were closing up, we heard a suture give way—at least, we thought it was a suture—but thinking it was only one we disregarded that. When we took the dressing off on the eighth day, the wound was all healed, but he had a hernia, a very considerable hernia, and it was very unsightly. In view of the fact that he was a young boy and that there was a patient in the next bed who had an inoperable cerebellar tumor with a huge hernia, he was much worried as to whether he would have to go through life with this thing on the back of his head. As we felt certain that we had taken out all the tumor, we felt it would be wise to repair the hernia; so three weeks after the operation, under local anesthesia, we put in a fascial transplant 5 inches long and 3 inches broad, and when we exposed the cerebellum we found no evidences of the tumor, but that all the muscles of the back of the head had contracted. It was impossible to get them back, so we put in a transplant, attaching it to the muscles and to the galea above, and apparently it has reconstructed the neck except that he cannot move it forward as well. His hernia is apparently cured. Of course, had there been any tumor left we could not have done it because that would have spoiled the decompression. His choked disk has gone down greatly, the tortuosity of the vessels has largely disappeared, his vision has returned, and he seems to be relieved of the symptoms, even of the incoordination of his right hand.

Another point of interest is that it gave us the unusual opportunity of stimulating the cerebellum on a conscious patient, and we used very strong currents. Dr. Lehman, who has charge of these cases and has been particularly interested in trying these Bárány tests stood under the patient to watch the patient while we stimulated him and we used currents very much stronger than we ordinarily use on the cortex, demonstrating the same thing that has been shown on the anthropoid apes by Clark and Horsley, that the cortex of the cerebellum to strong currents is absolutely inactive. He had absolutely no sensation from it, and the only effect was that the blood pressure went up considerably and then we had to stop. In all, we stimulated about eight or ten times.

DISCUSSION

DR. W. C. G. KIRCHNER: I had a rather interesting experience with a cerebellar tumor a little while ago at the City Hospital. It was interesting from the fact that the diagnosis was overlooked in a number of instances; in fact, even while he was at the hospital the boy, who was about 10 years old, was considered foolish, and he was dismissed by others as

if there were nothing the matter with him. He complained of a dull headache and seemed to be stuporous; and on further inquiry, it was learned that he had previously walked with a staggering gait. He was then referred to an oculist for eye examination and a marked choked disk was found. We came to the conclusion that he had a cerebellar tumor and that operation was indicated, especially inasmuch as the symptoms of intracranial pressure were increasing. The neurologists on the case were divided as to the diagnosis. It appeared to me that the condition was cerebellar, and I attempted to carry out operation as outlined by Dr. Sachs, but the patient had had only a few whiffs of anesthetic when he suddenly stopped breathing.

The lesson that these cases point out, I think, is that patients with staggering gait and with sometimes peculiar phlegmatic disposition should not be entirely overlooked, for often these are premonitory symptoms of cerebellar tumor. Furthermore, these cases do not always lend themselves very well to operation. In a rapid review of the subject, I learned that it quite frequently happens that death ensues during anesthesia even before surgical procedure is instituted, in which case it is usually due to a respiratory failure. In our case by means of intratracheal insufflation we were able to keep the boy alive six or seven hours. Necropsy revealed a tumor that was, after all, inoperable. It was diffuse and was located near the cerebellopontine angle, and it was curious that no special symptoms on that account were elicited.

DR. J. MCH. DEAN: I would like to hear from Dr. Sachs what his prognosis is.

DR. SACHS: The reported cases show results as follows: The case of Keen and Spiller, tumor was removed, patient was not relieved at all; case of Frazier and Spiller, died in the first twenty-four hours; case of Hofmeister and Meyer, was relieved for three months and then got a recurrence of pain, and was dead at the end of nine months. The longest time was in a case of Sachs and Berg in New York, in which the tumor was removed, the patient relieved, but died of abdominal metastasis two years later. There is not a single case that has been permanently relieved.

GUNSHOT WOUND OF URETHRA.—By DR. ROLAND HILL.

This case is simply an injury by gunshot, in which the urethra or part of it was torn completely out for about an inch. The left testicle was torn out and the urethra was completely torn away in front of the scrotum for quite a distance.

The question of operation came up, and he was undecided at the time whether to have anything done. It is a question what to do. Nothing has been done to repair the urethra. This might be done by plastics of different kinds, using mucous membrane of the appendix, as was done in one case successfully.

DR. WILLIAM M. ROBERTSON: It occurred to me that the two ends of the urethra could be loosened and brought together, leaving an opening for drainage, making an operation such as you would in dissecting a stricture.

DR. O. H. ELBRECHT: I would like to get the men here to tell what they know of any cases in which the appendix has been used, if they have turned out successfully. We know that the urethra can be freed for a considerable length and thereby bridge it over, but this happens to be in a rather unusual location and the proximal end is rather close to the body; and it is a question whether it can be freed in this case or whether some foreign transplant would be necessary.

DR. L. G. BARTELS: I am not willing to say just what kind of a plastic operation would be advisable in this case. I saw just the other day some reports of using a large vein in the urethra. Whatever the operation here would be, the first thing absolutely necessary, at the same sitting or previously, would be to have an external urethrotomy done back of where this opening in the urethra is at present, so as to keep this part of the urethra absolutely free from the urine or other contaminations. I think that is the first thing to be done before a plastic is attempted.

DR. O. H. ELBRECHT: I was confronted with a similar thing in a female patient who had been confined some days before. I made a urethrotomy $1\frac{1}{2}$ inches in length and by a series of plastics on the floor of the bladder was able to build in a floor to the bladder, which had an opening all of $1\frac{1}{2}$ inches. It took fourteen plastics before it was completed. The control was fairly well restored by packs of cotton batting placed in some rubber tissue. The woman has since had a baby and is able to hold her urine for some hours, and at night she goes the entire night without rising. However, inasmuch as it offers as much as the use of vein or appendix, it looks to me as though an inversion of the skin would be as satisfactory there.

DR. N. B. CARSON: The case is one of considerable interest and brings to mind a case that I saw many years ago on a visit to New York. The destruction of the urethra was not quite as great as it is in this case. At operation McBurney dissected up the edges for quite a distance and then turned the flap of skin inside, using sutures to draw the edges of the flap well under the bed made for its reception. He then took a flap from another portion and turned that down and drew the raw surfaces together so that when he had completed this plastic operation there was little to be seen except the stitches that had been introduced to hold the parts in place. McBurney afterward said the case had succeeded, that following this operation there was a slight leakage in one place, but he had succeeded in closing that, eventually completing the urethra in that way. I have in a few cases tried to restore the urethra, once or twice successfully and other times failing, by turning flaps from the tissues around in the same way. I cannot see in this but what McBurney's operation would give a very good chance of success, and I do not think it necessary, unless this should fail, to try transplantation of foreign tissues. I certainly should try this first.

DR. WILLARD BARTLETT: I can throw a little light on the use of the appendix in this way, not from my own experience, but while in Europe a few years ago I saw a celebrated case of a well-known surgeon. The surgeon had resected the cecum and a portion of the ascending colon at one sitting, bringing the appendix out through the abdominal wall. Later on he had transplanted the trigone and ureters into this pouch and successfully up to two years, at which time I saw the patient. However, the result had been that there was at that time a rather violent inflammation of the sac with already a nephritis, although the patient looked to be in pretty good shape.

As to the second consideration, the use of blood vessels or veins for this purpose, as far as I can find in the literature this is heartily condemned. As far as I know, there has been no successful result from it. It has been highly unsuccessful on account of the highly specialized intima not lending itself to any purpose other than the carrying of blood.

The use of the skin is, of course, the obvious one here, and there is no reason why a rather successful use should not be made, as we do in hypospadias.

DR. W. C. G. KIRCHNER: The chief difficulty lies in the avoidance of infection, and the number of operations would depend on how much infection results. In one instance I tried to repair a defect in a urethra by the transplantation of the urethra of a patient who had recently died. The infection spoiled the result I tried to get. Infection, I believe, is the chief drawback in any plastic operation. I was unable to get this transplanted urethra to take and I fancy that in any transplantation operation in which the appendix or blood vessels are used, we have the same thing to deal with. Still, with properly selected flaps, by making a channel, or perhaps making a tube and covering that over with scrotal tissue or tissue that can be brought over from the loosened tissue about the penis, a new channel can be made; and if once the foundation of this channel is well laid, then subsequent operations will be easier, and, I believe, will ultimately succeed. At least, I have had them succeed in rather difficult cases of hypospadias.

DR. ERNST JONAS: I agree with the consensus of opinion that taking the neighboring skin is perhaps the most likely to be successful. Dr. Bartlett's objection, which we find in the literature, to skin with hair is well taken; but at the last meeting of the Southern Surgical Association, Dr. Winslow reported a case of a woman with extrusion of the bladder where he had used skin that is usually covered with hair, but the operation had been done when the patient was about 8 or 9 years old; since then the woman has borne three or four children.

DR. ROLAND HILL (closing): Dr. Robertson's idea of stitching the urethra together and cutting out that scar would look good if it were not for the fact that the defect is so large. To get a plastic to cover the full length of space that is devoid of covering, we ought to have mucous membrane. We have mucous membrane now for a good part of the way and there is a little bridge of scar. As a primary measure that scar might be taken out, the mucous membrane dissected out and brought together to get a trough for the urethra. I would favor in this case taking the skin for a distance back from the under surface of the organ to avoid the hair. In this way, I think, that with time and patience this case might be cured.

(To be continued)

BATES COUNTY MEDICAL SOCIETY

The Bates County Medical Society met in regular monthly session Thursday afternoon, April 20, in the courthouse at Butler. The meeting was called to order at 2 o'clock. The minutes of the previous meeting were read and approved. Those present were Drs. C. R. Woodson of St. Joseph, president of the state association; C. J. Allen of Rich Hill, H. A. Rhoades of Foster, R. F. Crabtree, J. M. Christy, T. C. Boulware, T. F. Lockwood, E. N. Chastain, T. W. Foster and J. S. Newlon of Butler.

Dr. E. N. Chastain presented a good clinical case of a little girl 12 years of age, after convalescing from measles, manifested a marked degree of right side facial paralysis. After a careful examination was made by Dr. Woodson and others present a diagnosis of neuritis was made.

Dr. H. A. Rhoades of Foster recited an interesting case of neuritis in the feet and lower limbs of a woman of 50 years of age with complications of skin infection of the same region. Dr. Woodson mapped out a line of treatment for these two cases in a very scientific manner.

Dr. Woodson then made a most interesting address on the different forms of insanity, describing in a most scientific manner the different forms of delusion, hallucinations, mania, melancholia, etc., and closing his remarks by urging the importance to the general

practitioners on "The Importance of the Early Recognition of Nervous Disorders." He also criticized very much the method of treatment given to patients in state institutions for the insane, and urged that the appointments in these institutions be removed from politics and governed in the future by civil service authority.

Every one enjoyed Dr. Woodson's address and expressed the hope that he would come again. We want to thank him for his kindness in giving his time and effort to be with us on this occasion. During the progress of the meeting he received a long-distance call from his home stating that his wife was ill with pneumonia. We regretted very much that this had to be and all hope for her speedy recovery.

The society had the same duty to perform in taking up the proper action in regard to the untimely death of our confrère and fellow member, Dr. C. P. Bowden of Appleton City, who was fatally injured in a cyclone near Rockville the day previous and dying only a few hours before our society convened.

The committee on resolutions was ordered to convene and draw up resolutions pertaining to his death before next meeting and that one copy be placed on the records of this society, one copy sent to the state journal and one sent to the bereaved wife and family.

It was moved and seconded that the president appoint a committee of three to send a night letter of condolence to the wife and family. Motion carried.

It was moved and seconded that the society send an appropriate wreath of flowers for the funeral as a token of friendship and high esteem in which this society held him as a member. Motion carried.

This was a splendid meeting and every one enjoyed it in every particular.

It was urged that every member attend the state meeting at Excelsior Springs and have Bates County well represented.

With no other business the society adjourned to meet May 25, 1916.

J. S. NEWLON, M.D., Secretary.

BENTON COUNTY MEDICAL SOCIETY

The Benton County Medical Society meeting was held in Warsaw, April 27, with Dr. T. S. Reser, president, in the chair. The meeting was called to order at 10 a. m. A reading of the minutes of the last meeting was followed by reading of letters from Dr. E. J. Goodwin, State Secretary, in reference to senator and representative, which was followed by discussion, and a plan arranged to reach them for the best interest to the medical profession.

Applications of Dr. Z. W. Clark of Fristoe and Dr. Eugene A. Heibner, formerly of Warsaw, but now located at Greenridge, were accepted by unanimous vote.

Dr. Reser read a very interesting paper on hereditary syphilis, giving the general symptoms seen in the new-born babe, followed with suggestions for treatment. The paper was fully discussed by those present.

Following this was a clinic furnished by Drs. Dillon and Savage. The first case, a girl 13 years of age, emaciated and hectic in appearance, with a very prominent double thyroid enlargement. Some three or four weeks prior, this girl was taken very suddenly with a severe choking while eating her supper, with every appearance of choking to death, and following this attack the enlargement of thyroid glands began. Heart's action 140 per minute, temperature 102.5; no appetite and difficulty in swallowing. The second case was that of a young lady suffering from neuresthenia.

These cases were carefully examined and thoroughly discussed, with treatment suggested.

The next regular meeting is to be held in Cole Camp, June 15, with an afternoon session.

A paper will be read by Dr. N. A. Schwald and J. R. Smith, and special invitations will be sent for one of the State Association members and our councilor, Dr. W. J. Ferguson of Sedalia, to be present, closing with a 6 o'clock dinner.

J. R. SMITH, M.D., Secretary.

BUCHANAN COUNTY MEDICAL SOCIETY

Meeting of April 19

The regular meeting of the Buchanan County Medical Society was held at their rooms, Wednesday evening, April 19, Dr. Charles Geiger in the chair. There were nine members present. The minutes of the previous meeting were read and approved. This being a scientific session, no business matters were brought up.

On motion, the chairman was instructed to appoint a committee of three for the purpose of inducing the Interurban line to run one or two through cars to Excelsior Springs, to be called the "Buchanan County Special," at the meeting of the Missouri State Medical Association in May. The following were appointed: Drs. Beard, Fassett and Bansbach. They were instructed to report in time to get the announcement in our next bulletin.

On motion of Dr. Kenney, seconded by Dr. Lynch, a resolution was passed instructing our delegates to introduce and support an amendment to the constitution of the State Association to rescind that portion of the constitution investing the State Association with power to elect or reject a member of the county society regardless of any action taken by the county society itself.

The privilege of the floor was extended to Dr. J. T. Maloy of Blockton, Iowa.

A very interesting paper was read by Dr. G. R. Stevenson entitled "Scarlet Fever," and was discussed by the following members: Drs. Lynch, Beard, Carle, Willman and Kenney, Dr. Stevenson closing.

Meeting of May 3

Regular meeting of the Buchanan County Medical Society was held in their rooms, Wednesday evening, May 3, Dr. Charles Geiger in the chair. Thirty-four members were present. The minutes of the previous meeting were read and approved.

The subject of what to do with the proceeds left from entertaining the Missouri Valley Medical Society was thoroughly discussed, and a motion made by Dr. H. Lee that the surplus be pro rated and a portion turned back to the Commerce Club was put to a vote and lost. A motion was made by Dr. J. F. Owens and carried that the surplus, consisting of \$232.14, be set aside for an entertainment fund.

The following committee was appointed to draft resolutions expressing the society's regret at the death of Dr. T. E. Potter: Mrs. C. R. Woodwon and Mrs. F. G. Beard.

The committee in charge of the special train for the Missouri State Medical Association meeting, reported that this train would leave the Interurban Station at 7:30 a. m., Tuesday, May 9.

The following doctors were appointed to make a report on the various papers at the state medical meeting: Dr. Lau, gynecology; Dr. Beck, surgery; Dr. Whittington, psychiatry; Dr. Bell, internal medicine; Dr. Kenney, eye, ear, nose and throat.

The secretary was instructed to send a night letter to each one of the following gentlemen: Senators Joseph E. Ransdell, W. J. Stone, James A. Reed and

Representative Charles H. Bohrer, protesting vigorously against the adoption of Joint Resolution No. 120, introduced by Senator Works of California, making it unlawful for any member of the Public Health Service to become a member of any medical or private health association.

Drs. Kenney and Goetze were appointed to cooperate with the Program Committee for the purpose of exchanging the large projectoscope which the society now owns for a smaller instrument which can be used on the ordinary light current.

Dr. Leori Beck's paper on Minor Injuries was very attractive and was discussed by the following members: Drs. Kenney, Beard, Conrad, Roney, Stevenson and Lynch.

There being no further business, the meeting adjourned.

W. F. GOETZE, M.D., Secretary.

CAPE GIRARDEAU COUNTY MEDICAL SOCIETY

The Cape Girardeau County Medical Society held its usual meeting at the rooms of the Commercial Club, Dr. G. B. Schulz, president, in the chair. Those present were Drs. H. L. Cunningham, William N. Howard, Robert F. Wichterich, William E. Yount, G. B. Schulz and E. H. G. Wilson.

Dr. Schulz read a paper on "Surgery of Lower Abdomen," in which he did not go into details of any special work, but gave the history of first operations of appendicitis, ovaritis, etc., and noted the marked change in treatment.

The following applications were ballotted on: Drs. S. W. Morgan, Cape Girardeau; W. W. Duvalt, Shawneetown; O. J. Miller, Egypt Mills. All were elected to membership.

No further business, the society adjourned.

E. H. G. WILSON, M.D., Secretary.

CASS COUNTY MEDICAL SOCIETY

The Cass County Medical Society met in Harrisonville April 13, with the following members present: Drs. T. W. Adair, H. S. Crawford, A. R. Elder, H. Jerard, M. P. Overholser, R. D. Ramey and J. S. Triplett. Dr. Thomas J. Beattie of Kansas City was present as the guest of the society. Dr. J. S. Triplett, vice president, called the meeting to order and the following very interesting program was carried out: "Treatment of Uterine Displacements," Dr. Thomas J. Beattie, Kansas City; "Therapy Without Medicine," Dr. H. Jerard, Pleasant Hill.

Each paper was freely discussed by every one present and many interesting points brought out. Both papers were well prepared and showed much thought on the part of the authors.

Dr. W. A. Moore of West Line was recommended for membership by the board of censors and unanimously elected. Dr. E. M. Griffith of Creighton was reinstated as a member by paying up all back dues. The secretary reported that the society had participated in the observance of "Baby Week" by two of the members addressing a public meeting on Wednesday night, March 8. Members of the society also presided and delivered addresses before a public meeting Friday night, March 17. The entire week was devoted to public meetings arranged by the Ministers' Alliance and called "Public Welfare Institute." Friday night was public health night and was addressed by members of the medical profession.

H. S. CRAWFORD, M.D., Secretary.

CLAY COUNTY MEDICAL SOCIETY

The Clay County Medical Society met at the Major Hotel in Liberty Monday evening, April 24, with one of the best attended meetings it has been our pleasure to hold. The Smithville members were there to a man and a noble set of "boys" they are—affable, energetic and enthusiastic. We envy the good people of Smithville.

Dr. J. W. Epler of Kearney was recommended by the board of censors and was unanimously elected to membership. There are some more good men in Clay County, and there are two or three blank lines on our roster. Why is it thus?

This meeting was devoted to "spring cleaning" rather than to science. The society acted as a committee of the whole, or I might say an investigating committee. Mr. E. G. Simrall, our able prosecuting attorney, met with us by request. There should be no room in Clay County for the monte bank and faker.

The next meeting will be at the Snapp Hotel in Excelsior Springs, the last Monday evening in May, at which time we hope to have something better than ever.

J. J. GAINES, M.D., Secretary.

HOWARD COUNTY MEDICAL SOCIETY

The Howard County Medical Society met with the secretary at 2:15 p. m., Friday, May 5, with Dr. W. M. Pritchett of Glasgow, vice president, in the chair. Those present were Drs. T. H. Dinwiddie, V. Q. Bonham, Thomas J. Payne, W. M. Pritchett, James R. Champion, C. W. Watts, and T. C. Richards, visitor.

Dr. Pritchett gave us good advice as to prompt attendance at our monthly meetings.

There were no clinics or papers for discussion and no new business. Dr. Bonham, alternate-delegate, was to attend House of Delegates of the State Association at Excelsior Springs, May 8-9.

After a pleasant hour the society adjourned at 3:15 to meet Friday, June, 1916.

C. W. WATTS, M.D., Secretary.

IRON COUNTY MEDICAL SOCIETY

The Iron County Medical Society met at Ironton at 10 a. m. April 25, with the following doctors present: Adolph A. Meador and Dailey Appleberry of Bellevue, G. W. Farrar and R. W. Gay of Ironton, F. L. Long and O. A. Smith of Farmington and E. J. Goodwin of St. Louis.

Dr. Appleberry was elected president for the year, Dr. Meador, vice president; R. W. Gay, secretary-treasurer; Dailey Appleberry, delegate to the state meeting, and A. A. Meador, alternate. Drs. Goodwin, Smith and Long gave some interesting talks and advice along the line of our duties to the county and state societies.

The physicians in Iron County, being so few in number and so far apart, it was decided to invite other physicians outside of the county and who are not within convenient reach of their own county society to join with Iron County. The secretary was ordered to write to all the physicians in the county and urge them to join, also to the physicians at Caledonia and Bellgrade in Washington County. The next meeting is to be held at Ironton May 27.

After the medical society adjourned the visiting physicians were invited to attend a "Better Babies Contest," which was being held on the same day by the Women's Club. As there were some forty babies entered it took the combined work of all the physicians present to complete the measurements and examinations. Drs. Farrar, Appleberry, Meador and Jones took charge of the measurements and physical examinations; Dr. Smith the eye, ear, nose and throat, and Dr. Long the mental tests. Dr. Goodwin's time was

devoted to getting all departments to going smoothly, then in giving the large audience of mothers and their friends a splendid talk on child hygiene, preventive medicine and the family doctor. He was followed by Dr. Gay, who gave a most instructive address on infant feeding and care of the baby.

The Women's Club appreciated the presence and help of the visiting physicians, and gave them a vote of thanks for their assistance in making the meeting such a decided success.

ROGER W. GAY, M.D., Secretary.

NEWTON COUNTY MEDICAL SOCIETY

The Newton County Medical Society held a good meeting at Neosho April 18, with quite a full attendance. A good brotherly feeling prevails among the physicians of Newton County.

Dr. J. B. Hancock of Newtonia was elected president, Dr. A. W. Benton of Neosho was elected vice president, and Dr. Horace Bowers of Neosho was reelected secretary.

The society voted to hold quarterly meetings in future instead of monthly as in the past.

HORACE BOWERS, M.D., Secretary.

RAY COUNTY MEDICAL SOCIETY

The Ray County Medical Society held its regular meeting in the assembly room of the courthouse in Richmond April 19. The meeting was called to order by the president, Dr. Robert Sevier, at 1:30 p. m., and owing to the lack of time, the regular order of business was dispensed with and the program taken up at once.

Dr. C. C. Conover of Kansas City read a paper on "Acute Suppurative Nephritis," also showing some stereopticon views of the pathologic kidney.

Dr. J. N. Jackson of Kansas City read a paper on "The Differential Diagnosis of Appendicitis." Both papers were highly interesting and enjoyed by every one present.

The members present were: Drs. Robert Sevier, E. T. McGough, J. W. Smith, J. F. Clark, C. B. Shotwell, J. E. Ball, J. M. Buchanan, L. D. Greene, R. L. Hamilton, R. Sheets, L. E. Ellis and E. F. Higdon.

After extending a vote of thanks to Drs. Conover and Jackson for their presence, the society adjourned to meet in Richmond the third Wednesday in June.

J. E. BALL, M.D., Secretary.

SCHUYLER COUNTY MEDICAL SOCIETY

The Schuyler County Medical Society met in regular session at the office of Drs. Potter and Potter, at Lancaster, May 4. The meeting was called to order by the president, Dr. H. E. Gerwig. Members present were Drs. W. F. Justice, B. B. Potter, W. A. Potter, J. H. Keller of Lancaster; H. E. Gerwig, A. J. Drake and J. B. Bridges of Downing. The minutes of the last meeting were read and approved.

There were no papers read, but a number of interesting cases were reported and discussed at length.

A resolution was introduced and unanimously adopted condemning the Works resolution now pending in the U. S. Senate, and the society was instructed to write Senator Joseph E. Randsdell, chairman of the Senate Committee; Senator James A. Reed and Congressman James T. Lloyd, and urging them to use their greatest efforts to defeat the measure.

The next meeting will be held at Lancaster, June 25, 1916, at 2 p. m., with the following program: Paper by Dr. W. H. Zieber; paper by Dr. J. H. Keller; paper by Dr. A. J. Drake; paper by J. B. Bridges.

All members are urged to attend.

J. B. BRIDGES, M.D., Secretary.

THE TRUTH ABOUT MEDICINES

NEW AND NONOFFICIAL REMEDIES

Since the publication of New and Nonofficial Remedies, 1916, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

MEAD'S DRY MALT SOUP STOCK.—A mixture containing desiccated maltose and desiccated dextrin (about equal parts) 47 per cent., wheat flour 47 per cent., potassium carbonate 1 per cent. and moisture 5 per cent. Mead Johnson and Co., Jersey City, N. J. (*Jour. A. M. A.*, May 20, 1916, p. 1623).

PHENOLPHTHALEIN-MONSANTO.—A non-proprietary preparation of phenolphthalein admitted to New and Nonofficial Remedies (*Jour. A. M. A.*, May 20, 1916, p. 1623).

PROPAGANDA FOR REFORM

CONTROLLED CLINICAL TRIALS.—At the "Cardui" trial which is now in progress, A. S. Loevenhart, professor of Pharmacology and Toxicology at the University of Wisconsin, testified as to the conditions under which the clinical trial of a medicine would give results as certain as those yielded by the usual pharmacologic methods. Professor Loevenhart had testified that he preferred his students to be familiar with drugs the value of which had been clearly worked out by accurate clinical methods and shown to be useful in the treatment of disease. Asked as to the character of the clinical trials required to demonstrate the value of a drug, he held that there was no difference between a careful clinical test and a careful pharmacological test. Loevenhart explained that to determine if Wine of Cardui had the claimed action an experimenter would take a certain number of cases of amenorrhea, perhaps 50, and divide them into two sets; treat 25 with Wine of Cardui and the others without it and then make an estimate of the amount of the material passed at the time of the menstrual period. Such trials carried out in a hospital, where the physician receives his reports from nurses and is not obliged to depend on the statements of the patients, he explained, would be as reliable as a properly conducted pharmacologic experiment (*Jour. A. M. A.*, April 15, 1916, p. 1219).

DIAGNOSIS OF FEMALE DISORDERS.—Manufacturers of "uterine wafers," etc., often advise the use of their preparations without physical examination of the patient when patients are disinclined to submit to such physical examination on the chance that one of the asserted constituents of the proprietary may hit the cause of the trouble. In this connection the testimony of J. Clarence Webster, professor of Obstetrics and Diseases of Women in Rush Medical College, Chicago, in the "Wine of Cardui" case is of interest: He was asked: "Is it necessary to make an examination of the female pelvis in order to determine the condition, the underlying cause of the condition and the treatment which is necessary?" He replied: "It is necessary, because from symptoms one can rarely have any accurate idea of the pathological conditions in the body, in this part of the body. There are many symptoms which are common to different conditions and consequently it is necessary in analyzing a case to make a careful physical examination." Again, when asked, "Can you determine, or can the conditions of the uterus, or pelvic organs be determined merely by attention to description of symptoms which a patient gives?" he replied, "I cannot" (*Jour. A. M. A.*, April 22, 1916, p. 1337).

PROPER SELF-MEDICATION.—In the course of his testimony in the "Cardui" trial, John Leeming, M.D., Chicago, explained the extent to which self-medication is to be encouraged. Asked if it was very dangerous for a person who thinks he has a cold to take some aspirin without going to a doctor, he replied that, while in exceptional cases it might be exceedingly dangerous, in most cases of simple cold it would not be so in that Nature's recuperative powers would in most cases throw off such a cold. He explained that he always advises his patients how to treat themselves for simple ailments and to come to him when there are danger signs. Asked if it was dangerous for a person with a cough to get any medicine without a diagnosis, Dr. Leeming replied that it would not be dangerous at all if the person understood his case and in consultation with his doctor he has been generally advised. In families where he is the attending physician he often advises not to send for him in case of a slight cold, but to take a little medicine that will help Nature to throw it off (*Jour. A. M. A.*, April 22, 1916, p. 1330).

WHAT IS A "MEDICAL AUTHORITY?"—There has been a tendency to look upon publishers of text books as authorities and not to consider a physician as an authority on a certain subject unless he has written a text book on it. That the publication of a book does not prove its writer to be an authority is the opinion of J. Clarence Webster of Rush Medical College expressed at the Cardui case which is being tried in Chicago. Having referred to Frank Billings as an authority, Webster was asked to define the term "authority." He replied: "As far as a human being can be an authority on anything, I would regard a man who had worked at a particular subject in a scientific manner over a period of time, and who had more experience in that subject than other people, or most other people, as the best human authority that could be found." Asked if a man was more of an authority if he had written a book, Webster replied: "Often less in the eyes of the world" (*Jour. A. M. A.*, April 29, 1916, p. 1410).

VIBURNUM PRUNIFOLIUM INEFFICIENT.—J. Clarence Webster, holding the Chair of Obstetrics and Diseases of Women in Rush Medical College, testified in the "Wine of Cardui" case that he gave up the use of fluidextract of viburnum prunifolium because he believed that the benefit that he obtained from its use in pain in association with menstruation, was due to the alcohol in it. He had never had any reason whatever to believe that viburnum was of any value in warding off a threatened abortion. When in cases of painful menstruation he used the solid extract which contained no alcohol, he could not get the same results that he had obtained before and he gradually gave up the use of the drug altogether. Arthur A. Small, senior physician at St. Joseph's Hospital, Chicago, testified of extensive experience with the use of viburnum prunifolium, while resident physician in the Toronto General Hospital. As a result of his experience there he is of the opinion that viburnum prunifolium is of no value in the treatment of female disease. In these experiments both the fluidextract and the solid extract were used and it was found that the alcoholic solutions would prevent or lessen pain in some cases. In other words the only action was that of the alcohol. J. B. DeLee, holding the chair of Obstetrics at the Northwestern University School of Medicine, testified that years ago he gave large quantities of extractum viburnum prunifolium for the prevention of miscarriage, but found it useless (*Jour. A. M. A.*, April 22, 1916, p. 1338; May 13, 1916, p. 1566; May 20, 1916, p. 1639).

WHEN MEDICINES ARE NOT REQUIRED OR ARE USELESS.—Promoters of proprietary "uterine tonics" would have their preparation administered to girls

and to pregnant women whether indicated or not and in conditions where medicines plainly can do no good. The testimony of E. E. Montgomery, Professor of Gynecology at Jefferson Medical College, Philadelphia, in the "Cardui" trial forcibly brings out the objections to the indiscriminate administration of medicines to girls and women and the futility of their use in cases which need surgical attention. Regarding the administration of "tonics" to girls at puberty he said that to advise a girl who is undergoing a physiological process that she must take some medicine which contains alcohol or any habit-forming drug at this period of her life, which is the most impressionable period of her existence, is doing that which is placing her future in peril, and is without any possible benefit. Regarding the administration of a "tonic" such as Wine of Cardui is supposed to be, he testified that it can do nothing but harm; that a woman because she is pregnant, pregnancy being a physiological process, does not need medicine, but needs attention. Regarding the use of medicines in uterine prolapse as a means of strengthening the unstriated muscle and thus to help the muscle to perform its work to hold the womb in place, Dr. Montgomery explained that the unstriated muscle in the women is not likely to be affected by medicine and that the tissue outside the womb is unlikely to be affected by medicine; to give medicine in the case of a woman who has prolapsus is just about as reasonable as to bathe one's suspenders with a solution when the elastic tissue has been destroyed from them (*Jour. A. M. A.*, May 6, 1916, p. 1481).

BOOK REVIEWS

THE TONSILS—FAUCIAL, LINGUAL AND PHARYNGEAL. Illustrated. By Harry A. Barnes, M.D. C. V. Mosby Company, St. Louis.

This little monograph, as its title suggests, considers concisely everything that appertains to the subject of the tonsils. All the illustrations are original.

PRACTICAL MATERIA MEDICA AND PRESCRIPTION WRITING. With illustrations. By Oscar W. Bethea, M.D. Philadelphia: F. A. Davis Company.

All official drugs, as well as some others frequently employed in prescriptions, are included and the more important ones given adequate consideration. The specimen prescriptions are selected with care. The book will be valuable to the practitioners who have not had the advantage of systematic instruction in prescription writing, which has almost become a lost art.

A TEXTBOOK OF MEDICAL CHEMISTRY AND TOXICOLOGY. By James W. Holland, M.D., Emeritus Professor of Medical Chemistry and Toxicology, Jefferson Medical College, Philadelphia. Fourth edition, thoroughly revised. Octavo of 678 pages, 116 illustrations. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, \$3 net.

As in previous editions of this work, the many advances in medical chemistry have again been added. The sections on radium, thorium, uranium and vanadium have been materially extended. Descriptions of a number of the more important of the newer tests are included. The work is valuable both as a book of reference and a laboratory manual.

WHAT TO EAT AND WHY. By G. Carroll Smith, M.D., of Boston, Mass. Second edition, thoroughly revised. Octavo of 377 pages. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, \$2.50 net.

The first edition of this book was issued in 1911. It was reprinted in January, 1912, and March, 1913. This shows a popularity that should gratify the author.

It is essentially an attempt to describe the nature of each disease mentioned and the type of food best adapted to it. Naturally such summary cannot take in all the variations, nor allow for all the theories. But it does afford interesting and stimulating reading. It cannot take the place of a thorough-going textbook, but it does offer suggestions that at times are of great value.

One feels, however, that the author is rather too dogmatic to be a safe guide: one misses the logical discussion of the arguments pro and con that go so far to make a book of perennial value.

G. H. H.

CASE HISTORIES IN OBSTETRICS. By Robert L. De Normandie, A.B., M.D., Assistant in Obstetrics, Harvard Medical School; Physician to Out-Patients, Boston Lying-In Hospital; Assistant in Gynecology, Boston Dispensary. Cloth. Price, \$4. Pp. 516. Boston: W. M. Leonard.

One of the most valuable reference books on obstetrics which has been recently published is this volume of 516 pages covering the case history of a large mass of material representing the various problems in this most essential branch of practice. These are illustrative groups which came under observation of the author in private and hospital work.

The entire field of midwifery is covered by actual technical experience.

Results are recorded as they occurred, not as theoretically they might be expected to occur.

The book is well worthy of a place in the library of every man doing an obstetrical practice.

G. C. M.

AUTOPLASTIC BONE SURGERY. By Charles Davison, M.D., Professor of Surgery and Clinical Surgery, University of Illinois, College of Medicine; Fellow of the American College of Surgeons; Surgeon to Cook County and University Hospital, Chicago, and Franklin D. Smith, M.D., Clinical Pathologist to University Hospital, Chicago. Octavo, 369 pages, with 174 illustrations. Cloth, \$3.50 net. Philadelphia. Lea & Febiger, 706, 708 and 710 Sansom St.

The chapters on transplantation, periosteal regeneration and regeneration of bone are written by Dr. Smith. The rest of the work is by Dr. Davison. The book is a systematic consideration of bone transplantation which, though not altogether new, may some day replace to a considerable extent that form of bone surgery which leaves metallic foreign bodies in the tissues.

In the eleven chapters, each one a splendid essay on a subdivision of the subject, the authors place a wealth of information before the reader, much of which is original. The style is clear and definite, the bibliography is especially attractive, the illustrations numerous.

A TEXTBOOK FOR MIDWIVES. By John S. Fairbairn, M.A., M.D., B.Ch., F.R.C.F., F.R.C.S., Physician and Lecturer to Midwives, General Lying-In Hospital, London, etc. Cloth. Price, \$3.75. Pp. 317, with illustrations. Oxford University Press, American Branch, 35 West Thirty-Second Street, New York.

A work which is fortunately not so imperatively needed in the Central States as in the more crowded districts of our great metropolitan cities, and especially the swarming tenement areas of foreign settlements where the midwife is in most demand.

A recent survey of Kansas City shows only four midwives reporting cases during the past year to the board of health. This is one of the points used in the argument that Kansas City is the mostly intensely American of all our cities.

For the purpose of furnishing a handbook for midwives and as far as any handbook can replace text-

books in the teaching of midwives, this volume is to be commended. The text is clear, the illustrations good and generous and the language plain. The book would be of use also among nurses as well as for midwives.

G. C. M.

MEDICAL AND VETERINARY ENTOMOLOGY. By William B. Herms, Associate Professor of Parasitology in the University of California; Consulting Parasitologist for the California State Board of Health, and Formerly Professor of Zoology and Parasitology in the San Francisco Veterinary College. Price, \$4. Pp. 393, with 228 illustrations. New York: The Macmillan Company, 1915.

As the author states in his preface, this book is not intended to be a comprehensive treatise on medical entomology, but rather an attempt to systematize the subject and assist in securing for it a place among the allied biologic sciences. That this object has been attained and in an admirable manner, a careful study of the volume will show. The book presents, in a condensed and convenient form, much information which will prove of value to the physician and veterinarian, as well as the sanitarian and health officer, and which up to this time has been widely scattered and more or less inaccessible to the average reader.

For the benefit of the research worker in biology, detailed accounts of experiments are scattered through the work, and to student and expert alike the illustrations, practically all of which are original, will prove helpful.

The chapters which deal with mosquitoes and mosquito control, the common house fly and venomous insects and arachnids are particularly good. A simple but comprehensive key for the classification of mosquitoes is given. The book work and binding are excellent.

R. L. S.

SCOPOLAMIN-MORPHIN ANESTHESIA. By Bertha Van Hoosen, M.A., M.S., Attending Gynecologist to Cook County Hospital, Provident Hospital and Mary Thompson Hospital, etc. And a Psychologic Study of "Twilight Sleep" Made by the Giessen Method, by Elisabeth Ross Shaw, Consulting Psychologist. Cloth. Price, \$1.50. Pp. 216, with illustrations. Chicago: The House of Manz, 1915.

A delightful 216-page book summarizing about ten years' experience with scopolamin-morphin anesthesia. The experience covers 7,954 operations on 5,000 patients in a general surgical practice of gynecology and 100 "twilight" cases without mortality.

Operative mortality was 0.6 per cent. In the "twilight" cases: Cases hard to manage were 8 per cent.; partially successful cases were 26 per cent.; failures, 4 per cent.

Methods for surgical operations: one and one-half hours before operation gave morphin $\frac{1}{4}$ grain; scopolamin 1/100 grain. One and one-half hours before operation repeated dose. One-half hour before operation repeated dose and this was generally done in the operating room. Used Crile's anociassociation and if necessary ether or preferably chloroform anesthesia.

For "twilight" gave morphin $\frac{1}{8}$ and scopolamin 1/100 at start of labor; repeated the scopolamin two or three times at one-half to one and one-half-hour intervals, p. r. n.

General advantages claimed are: Decreased shock; decreased vomiting and postoperative sickness; cheaper than nitrous oxid; quickens convalescence; no mortality due to the drug.

Disadvantages: Patient remains unconscious after operation for from two to six hours. Respiration drops to 10 per minute or less and occasionally must be revived with heart stimulants or oxygen. Throat and trachea operations contraindicated.

This is the most scientific and fair-minded of all the monographs on scopolamin.

G. C. M.

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EDITOR

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 } M. A. BLISS, M.D.

ORIGINAL ARTICLES

A PLEA FOR A MERIT SYSTEM AND CIVIL SERVICE IN OUR ELEEMOSYNARY INSTITUTIONS*

PRESIDENT'S ADDRESS

C. R. WOODSON, M.D.
ST. JOSEPH, MO.

Organized medicine has been an important factor in various economic questions, and in every well-governed country it will continue to be so. It has been demonstrated that the physician is as important in a community as the general in the greatest conflict the world has ever known; and to every true and faithful physician much credit is due. The chief aim of organized medicine is to benefit humanity, prevent disease and improve sanitation. Other objects of the profession are to elevate the standard of medicine, investigate and ascertain the cause of disease, render habitable every quarter of the globe, reduce medicine if possible to a perfect science, and enact laws which will not permit unskilled physicians to practice.

It has only been a decade or two since the beautiful cities and the fertile soil of the South have been practically free from yellow fever; and malaria as well as tropical diseases are practically under control even in the Canal Zone.

The trail of the western advance of civilization was marked with cholera in the middle of the last century, not only through this state but to the Pacific Slope; and it is now almost a stranger on the American Continent.

Great advances have been made in the investigation and treatment of meningitis. It will require time to determine the effects of salvarsan on lues of the central nervous system, as in many the degenerative process is delayed for a generation or a generation and a half.

The cause of bubonic plague has been discovered, thanks to Surg.-Gen. Blue. Diphtheria,

typhoid fever and smallpox have been greatly modified, or the ravages of these diseases greatly reduced.

The regular profession is the only one whose scope of work extends to the prevention of disease, whose laboratories have investigated and ascertained causes, and is the only branch of the profession that stands for a high standard and proper regulation. The profession has accomplished practically all this with but little aid from the various commonwealths or from the national government. Some public-spirited persons have provided ways and means for equipping laboratories and officering them with men capable of doing the highest class of research work and achieving the greatest victories and benefits known to mankind.

The national government has never contributed to or aided the profession materially in stamping out disease, and has never recognized the medical profession as being worthy of a position in the president's cabinet, notwithstanding the numerous requests, petitions, work, sacrifices or results obtained in the protection of human life; in fact, has not even sustained the regular profession as it should, although the national government has established a merit and civil service system.

The time is now ripe for this state to act, and it is my belief that it will have to act through the medical profession. I believe that the last three governors of the state have recommended to the general assembly of Missouri a board of control for the eleemosynary institutions. For some reason the general assembly of the state of Missouri has failed to enact laws taking these institutions out of politics and placing them on a civil service basis.

As a reason for urging the Missouri State Medical Association to act at the present time, I desire to submit the following: After the opening of the state hospitals, State Hospital No. 1, for thirty-five or forty years made but few changes in its medical officers. State Hospital No. 2, for thirty-five years had but three superintendents. State Hospital No. 3, for twenty years had but two superintendents. Since the first day of June, 1907, or a period of nine years,

* Read at the Fifty-Ninth Annual Meeting of the Missouri State Medical Association, Excelsior Springs, May 8-10, 1916.

State Hospital No. 1, has had four superintendents, eighteen assistant physicians and 1,601 employees. At present it has 1,200 patients and three assistant physicians; one assistant physician to about every 400 patients, and in nine years has spent \$2,225,000.

State Hospital No. 2, since June 1, 1907, has had five superintendents, eighteen assistant physicians, and 2,050 employees. At present it has 1,750 patients and four assistant physicians—one assistant physician to about every 450 patients—and has spent about \$2,600,000.

State Hospital No. 3, since June 1, 1907, has had five superintendents, eight assistant physicians, and 1,500 employees. At present it has 1,300 patients and three assistant physicians—one assistant physician to about every 433 patients—and has spent \$2,250,000.

State Hospital No. 4, since June 1, 1907, has had six superintendents, seven assistant physicians, and has been unable to get a number of employees. At present it has 660 patients and two assistant physicians—one assistant physician to about every 330 patients—and has spent \$1,250,000.

The Colony for the Feeble-Minded and Epileptic at Marshall, since June 1, 1907, has had four superintendents, four assistant physicians and 442 employees. At present it has 547 patients and one assistant physician—one assistant physician to 547 patients—and has spent about \$700,000.

In obtaining this information one superintendent says, "I have the distinction of having served as superintendent in this institution longer than any other man." His service had been two years and eight months.

In submitting these tabulations it is not my desire to discriminate in favor of or against either of the great political parties, but to place them in the balance and to prove conclusively that politics should be taken out of institutions; and that one party is as guilty as the other in destroying the usefulness of the institution, and officering it with untrained men, changing them before it is possible for them to become thoroughly familiar with the institution work, and above all handicapping the superintendent by the selection of the remainder of the staff, in some instances appointing supervisors and heads of various departments without regard to qualification and utterly disregarding experience, and even permitting lay members of the board of managers to dominate the medical superintendent and the institution.

May I ask the great body of regular physicians throughout the commonwealth of Missouri to join as one man and ask for the enactment of a law that will forever take the eleemosynary institutions out of politics and equip the institutions with competent superintendents, the term of office to be unlimited, or limited to com-

petency and good behavior, or to be governed by civil service?

Or I would suggest the enactment of a law patterned after some of the other states that have state boards of control. Or, briefly, I would say that the governor shall, prior to the adjournment of the General Assembly, with the consent of two-thirds of the members of the senate in executive session, nominate three or six electors of the state, not more than three of whom shall belong to the same political party and no two of whom shall reside in the same congressional district, as members of a board to be known as a State Board of Control of the State Institutions or of the State Hospitals for the Insane, the members to hold office as designated by the governor for two, four and six years, respectively. Subsequent appointments to be made as above provided, and shall have a period of six years, except to fill vacancies. The board shall at all times be subject to the above limitations and restrictions. No nomination shall be considered by the senate until the same shall have been referred to a committee of five, not more than three of whom shall belong to the same political party, to be appointed by the president of the senate in executive session. Reports shall be made at any time when called for by the senate. The consideration of nominations by the senate shall not be had on the same legislative day the nominations are referred. The chairman of the board for each biennial period shall be the member whose term first expires.

The above is copied largely from the laws governing institutions in the state of Iowa.

The governor, by and with the consent of the senate, during a session of the general assembly, may remove any member of the board for malfeasance or nonfeasance in office, or for any cause that renders him ineligible to appointment or incapable or unfit to discharge the duties of his office, and his removal when so made shall be final. When the general assembly is not in session the governor may suspend any member so disqualified and shall appoint another to fill the vacancy thus created, subject, however, to the action of the senate when next in session. All vacancies on said board that may occur while the general assembly is not in session shall be filled by appointment by the governor, which appointment shall expire at the end of thirty days from the time the general assembly next convenes; and vacancies occurring during a session of the general assembly shall be filled as regular appointments are made and before the end of the said session.

Prohibit political influence or contributions. Any member or officer of the board of control, or officer or employee of the institution subject to this board, who shall solicit or otherwise exert his influence directly or indirectly to induce

another officer or employee of the state to adopt his political views, or to favor any particular person or candidate for office, or who shall in any manner contribute money or anything of value to any person for political purposes, shall be removed from his office or position by the proper authorities. Make solicitation of contributions for political purposes in state institutions a misdemeanor.

Any person who demands or solicits from any member, employee, or officer of the board of control, or from any officer or employee of any institution subject to this board, a contribution of money or anything of value for political purposes or for the payments of the expenses of any political committee or organization, shall be deemed guilty of a misdemeanor and punished accordingly.

The superintendent or other chief executive officer to appoint all assistant physicians, nurses, and employees required in the management of the institution, the number of whom shall be determined by the board. It should be a misdemeanor for the members of the board or any officer thereof to exert any influence by solicitation or otherwise on the managing officers of an institution in the selection of any employee or assistant. The said chief executive officer may at his pleasure discharge any person employed, but shall keep in the record of employees the date of such discharge and shall place opposite his name the reason thereof.

On Jan. 1, 1897, the inside doors of State Hospital No. 2 were removed, and night nurses were substituted for the night watch and the abominable chambers, one of which was provided for each patient, were abolished. The numerous additions built thereafter to that institution were built without inside doors or even without inside casings. This I regard as being the most advanced step taken in the state hospitals for the insane for the last half of the century. Patients in this manner have the privilege of going to the toilet, getting a drink of water, and of knowing that they are not locked in a room or dormitory with violent patients. A large recreation and amusement building was provided for the women with reading and writing rooms, pianos, games, etc., which proved very satisfactory; and a larger recreation and amusement building or outing station was provided for men, with reading, recreation and amusement rooms; billiard halls, bowling-alleys, etc.; but because of the overcrowded condition these were used for housing the insane, thus depriving them of the comforts and pleasure to be obtained therefrom. To be administered to by a nurse is better than to be locked in a room where a night watch is supposed to make a round once an hour. The unsanitary condition that necessarily follows with closed doors, and the extreme dissatisfaction and unsafety of patients should cause the doors of every such

state institution to be thrown open. Every institution in the state should be provided with amusement halls or recreation buildings—buildings to which those who are well enough can be taken every day, thus permitting a thorough airing of the wards in which they are kept at night. Not only this, but medical officers should be provided so that there would be at least one physician for every 200 patients in every institution in the state, together with modern laboratories equipped with thoroughly competent men. In fact, anything that will help to restore or bring back to health the mind of a man or woman who has been so unfortunate should not be spared and should not be considered as costing too much. It is false economy to overcrowd the institution for the insane; overcrowding and lack of individualizing treatment and proper care and attention result in retardation or failure to restore, and the holding of a large number of patients in an institution for years, some of them ten, twenty, thirty, forty and fifty years, even at a nominal sum results in a fabulous amount with the large number that are housed until they die, and is a very great expense to the commonwealth or the person responsible for their support.

It is a physical impossibility for a physician to individualize or treat from 350 to 450 insane persons. It is true that a large number of them will require no medical treatment, but to keep posted as to their physical and mental condition and direct the necessary and appropriate treatment will be impossible. Insane persons are sick mentally, and need a physician, a nurse and individualizing. There is nothing more serious than mental disease. Timely and appropriate treatment in the borderland cases brings excellent results. Is the human mind of less importance to the profession, to the state, or to the friends of the patient than a diseased appendix, a diseased gallbladder, a diseased kidney or a diseased ovary? When the patient is informed that he is suffering from any one of the above-named diseases he is rushed off to the surgeon, and an effort is made to bring relief. But when the patient suffers from mental disease the family too often hesitates about having the patient treated, the family physician often hesitates, the courts hesitate, and all are slow to act. When in fact the patient could spare the kidney, the gallbladder, the appendix, or the ovary and then be in a far better condition than a patient with an incurable insanity. The mind is of more importance to any individual, and the restoration of the mind ought to be considered of paramount importance. The only way that skill can be obtained is by a continuous service in the medical staff. The changes have been so frequent in most of the hospitals that I apprehend the medical staff would do well to know the names of the patients that they have under

their charge. And while they have from 350 to 450 patients at this time, as set forth in the above tables, each physician connected with the state hospitals has 150 more yearly. In other words where the physician is treating 350 patients today, during the year he has treated 500, or where he is treating 450 he has treated 600.

It is said that there is a great deal of tuberculosis in state institutions and some officers have been condemned for not isolating these cases. Is it possible to isolate without rooms, or with from fifty to 140 in a room?

Some of the institutions have many wards that have from 100 to 140 patients, and some institutions have single dormitories that have seventy-five to 100 patients. Does this look much like isolating? All the hospitals have 33.3 per cent. greater number of patients than the buildings were intended for. For a physician to make an early diagnosis of tuberculosis and keep posted as to his patients' physical condition and their mental requirements with this great number of patients, the disadvantage of an overcrowded institution, and the lack of special rooms is simply impossible. The disease is not alone confined to the institution. If a patient contracts tuberculosis in a state hospital and gets well mentally and is taken into the family, it means spreading the disease in other places, and continue perhaps for a generation.

It is not only important that a merit and civil service system be inaugurated, but it is important that the staff be made up of a sufficient number of physicians of high professional attainments. Then, and not until then, will we get results. Enact laws that will not permit any man to interfere with the work, especially by hampering and handicapping and having men who have had no medical training. Enact laws that will prevent any one from farming out the institution by way of a promise for a political support.

109½ North Eighth Street.

DIABETES INSIPIDUS*

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The true diabetes insipidus is a very rare occurrence. Until now its real character has been little understood and opinions concerning it have been greatly at variance. We have, however, learned that a few distinctly different conditions have been described under the same name.

Polyuria is the most important symptom, and of course not every case of polyuria is a diabetes insipidus. We must exclude all cases of

temporary polyuria due to excessive acute or chronic drinking: polydipsia, all cases due to the elimination of large amounts of water from absorption of transudates and exudates, from a hydronephrosis or after acute diseases with retention of water, during convalescence from typhoid, pneumonia, etc. The polyuria in contracted kidney does not belong to it, nor the reflex hydruria after catheterizing ureters. So-called *urina spastica*, an abundant urine in some cases of chorea, of migraine, of epilepsy, neurasthenia, and hysteria are not diabetic.

I have the record of a case of neurasthenia with polyuria, a gigantic machinist, voiding two to three gallons a day, together with a profuse diarrhea. He claimed he could not eat any solid food. Of course he drank enormous amounts of water, also much milk. I put him on a dry diet which immediately controlled his condition, but only for a few weeks, when he had a relapse into his former habits. Cases like this may have been the cause of diabetes insipidus formerly being classed with mental diseases.

Excluding all such conditions we define diabetes insipidus as a condition in which with normal blood-pressure abnormal amounts of urine are voided as a rule of very low specific gravity and yet containing all the elements of a normal urine in generally normal proportions, though greatly diluted, to the exclusion of abnormal substances, and with kidneys histologically in normal condition. This would mean a purely functional disorder of the kidneys, characterized by a loss of power to concentrate urine.

Besides the psychopathic form there is observed a familial form, a hereditary taint so to say. It had been observed in one instance through five generations, comprising altogether 220 members, 35 of whom had polyuria without showing any untoward symptoms; for their ages ranged from early infancy to an age of 92 years (Weil, Sr. and Jr.).

In diabetes insipidus proper an abundance of food taken will not result in a higher specific gravity of the urine; it remains extremely low. And in order to maintain the dilution, enormous amounts of water are drunk, resulting in a urinary output of four to ten liters; Trousseau has reported a case with the fabulous output of forty-three liters in 24 hours.

But there is also a disturbance of metabolism of a very peculiar type—namely, a greatly increased tolerance for sugar. In a true case it is practically impossible to induce an alimentary glycosuria, even after giving enormous doses of glucose.

In this disturbance sodium chlorid acts directly as a diuretic. Ten grams of salt will increase the flow by at least two liters, which fact serves for diagnostic purposes. In normal condition 10 gm. of salt have no diuretic effect. It must be noted furthermore that in

* Read before the St. Louis Medical Society, Feb. 26, 1916.

this condition no single constituent of urine is changed as to its proportion to the others, nor has there ever been observed an abnormal constituent, except some sugar in a few cases towards the end.

We might formulate it thus: the osmotic, not the selective function of the kidneys is disturbed.

But what is the cause of this peculiar phenomenon? From physiology we know that lesion of a certain spot of the fourth ventricle of the medulla will produce a glycosuria, while lesion of a spot in front of it closer to the root of the acoustic nerve will create a polyuria usually combined with an albuminuria. But the condition lasts only for a short period.

In man it has been observed that puncture of the brain for hydrocephalus internus is apt to be followed by polyuria of long duration. Frank was the first to call attention to the fact that in 20 per cent. of the cases of hemianopsia they were polyurics. This centered the attention on the chiasma and its disturbances which were found to be invariably due to some interference with the hypophysis, the pituitary gland, which explains the occurrence of the trouble in basilar meningitis (of luetic origin) and various brain tumors. In every case some interference with the pituitary could be shown. Yet there occurred also a number of other symptoms of widely different character which caused confusion, until careful animal experimentation and close clinical observation, coupled with embryologic studies advanced our understanding to a great extent (Biedl).

The hypophysis consists of three distinct organs. In front the anterior lobe, histologically of a glandular character with chromophil (eosinophil) cells grouped around basophil so-called chief cells. The latter increase enormously in number during pregnancy, and also after thyroidectomy, the whole gland then swelling to double its former size. Here occur tumors of two general kinds: teratoma, also glioma and carcinoma; and adenoma. The latter takes up the glandular function of the anterior lobe and induces hyperpituitarism, clinically acromegaly, frequently associated with polyuric glycosuria.

The destruction of the anterior lobe before puberty results in infantilism, chondrodystrophy (dwarf-growth), an aplasia of the internal or primary sexual apparatus: uterus, ovaries, testicles. With the sexual aplasia there is often observed a general adiposity, more marked about the secondary sexual apparatus: breasts, vulva, etc. (eunuchoids). This is also frequent in acromegaly.

Disturbances of the posterior lobe of the hypophysis are explained by some as due to an impediment in the flow of the glandular secretion toward the brain. There appears the classical picture of a dystrophia adiposo-genita-

lis, believed to be due to an interference with the function of the intermediary substance of the hypophysis. The latter is a layer of epithelial cells of inconsiderable thickness. And it has been proved clinically and by experiments that its irritation will cause an intense polyuria, diabetes insipidus.

The etiology of diabetes insipidus proper is a hyperfunction of the intermediary substance of the hypophysis (Biedl). For this reason many affections of its immediate neighborhood are accompanied by polyuria, but also many other affections of the brain, providing they irritate or disturb that particular part: hydrocephalus internus, basilar meningitis, brain tumors, cerebral syphilis, concussion of the brain, etc.

In such a chronic ailment there will occur temporary changes, fluctuations of the symptoms, parallel with temporary congestions or relative anemia. In the initial stage the concentration of the urine may then vary, and also the total amount voided. It is not certain whether the hyperfunction alone would produce clinical symptoms other than the polyuria. Gigantism and sexual adiposity, which frequently occur as concomitant symptoms, may mean a simultaneous disturbance also of the anterior or posterior lobes. When occurring in early infancy prognosis is usually bad. Its occurrence during pregnancy is due to the before-mentioned swelling of the entire gland and is transient. The disturbance terminates with a peculiar cachexia, perhaps from exhaustion of the function, or also from the malignant character of a tumor causing it, as we may now frequently suspect. Terminal glycosuria and amaurosis mean involvement of the anterior lobe and pressure on the chiasma. The same explanation will account for a general adiposity or giant growth or acromegaly, the latter being a giant growth after the epiphyseal cartilages have been ossified. A voracious appetite is one of the most frequent symptoms and difficult to explain, though we know that disturbances of metabolism are present in diseases of the pituitary, i. e., either increased sugar tolerance or glycosuria, according to the parts involved.

The only substance found occasionally in the urine, usually foreign to it is inosite, muscle-sugar ($C_6H_{12}O_6$), hexahydroxybenzene, not a true sugar, which with the great flow of water is washed out of the system. It is of no clinical importance whatsoever. A very remarkable fact is that in spite of the large amounts of liquid circulating, the heart does not become affected, as one would expect according to prevailing theories concerning causes of dilatation and hypertrophy of the heart (the Munich beer-heart and the Russian tea-heart). Nocturia is not characteristic nor as pronounced as in contracted kidney. The faculty of sweating is not lost, as in some cases of diabetes mellitus. The

anhidrosis of the mellituric must have some other cause than the one usually accused.

It would seem as if the loss of the concentrating function was not the sole factor. For it does not explain why toward the end the blood should become thicker and the system impoverished of water. The secretion of water in diabetic polyuria must be a very active process, for in other conditions, like in cholera, an anuria develops, while in diabetes insipidus the polyuria persists to the end.

In distinction too from other polyurias we find that withdrawal of water induces alarming general symptoms, in part resembling uremia but decidedly different from it. It is due to the fact that the end-products of metabolism are not washed out, the accumulation not of abnormal but of normal decomposition products.

The diagnosis is based on the excretion of an extremely diluted but otherwise normal urine, which cannot be rendered more concentrated by increasing food (proteid) or by feeding with sodium chlorid; and on the increased tolerance for sugar.

Where with an average daily diet a nitrogen equilibrium or balance has been established the urine of 24 hours contains a fixed amount of nitrogen. By adding more protein to the food, ordinarily not more is retained, but more is secreted. In diabetes insipidus this increased elimination demands an additional amount of water.

The specific gravity of the urine approaches that of water and in some cases has been stated to be just one thousand, an assertion which has been ridiculed as absurd, since there are always some solids present which must elevate the specific gravity.

In a case under my observation to be reported directly I have found at one time a specific gravity of even a trace below one thousand, not relying on an ordinary urometer, but employing one of the most precise methods, a Mohr-Westphal balance accurate to the fourth decimal. And this urine showed on qualitative tests the presence of urea, chlorides, phosphates, indican, urobilin and urochromogen.

How can this be explained?

While supersaturated solutions of various salts may contain at the most up to four times the soluble amount, urine may hold twenty times the amount of urates compared with pure water, and of calcium oxalate even sixty times the quantity (Lichtwitz). When a salt solution crystallizes out, the mother liquor will consist of a saturated solution; in urine it is apt to be a supersaturated liquor. When you heat a urine containing a sediment of urates, they will dissolve, but on cooling, as a rule, not be precipitated again. In a case observed by me the urine contained on quantitative analysis after the Kowarsky method, titrating with piperidin,

and controlled by the Kjeldahl method, about 0.3 per cent. uric acid, including the very heavy precipitate which it presented. The patient was then given 2 gm. atophan. The next urine showed almost 1 per cent. uric acid, but never precipitated. Frequently in filtering an apparently fairly clear urine one observes that it filters at first quite rapidly, then more slowly, finally extremely slowly. What is the cause of all this? And why is it that the specific gravity of the same urine, I mean of the same specimen, diminishes often markedly after 24 hours, even if no precipitate has appeared? And in one case under my observation it became heavier, always using methods of precision and duly considering the temperature and guarding against evaporation.

Precise methods of determining specific gravity are essentially of two different kinds. Determination of loss of weight incurred by immersion of a body: by the areometer, which is rarely of sufficient accuracy, and the Westphal balance with the Rumann body, permitting the weighing to the fourth decimal (and similar constructions); or the pycnometer, of which the Sprengel modification is the most accurate. Here the container is first weighed empty, then filled with distilled water, weights noted—one must employ a delicate analytical balance, reliable to one tenth of one milligram or one six-hundredth of one grain—finally the instrument is filled with the liquid to be determined. Suppose the instrument holds exactly 10 c.c.; then a liquid of a different weight introduced; its weight divided by ten would be its specific gravity. If we now study tables giving the specific gravity, say of hydrochloric acid, we discover that the difference between two higher and between two lower percentages as expressed in figures of specific gravity is not the same. With rising percentage the differences become greater. Why? It cannot be because the displacement of water by the dissolved substance was disproportionate, but because at lower percentages ionization increases rapidly. However in supersaturated solutions ionisation is out of the question. I have directed your attention to such phenomena only to illustrate how complicated the question of specific gravity is, which in scientific literature is still treated as a completed chapter. It is quite plausible that specific gravity bears a certain relation to osmotic pressure. In comparing figures obtained from the pycnometer and those obtained from a Westphal balance we find occasionally discrepancies which are annoying, and have been heretofore thought to be due to errors in technic. In a pycnometer we observe the actual weight of a liquid and whatever it may hold. With the Westphal balance we determine the amount and weight of displaced fluid—excluding what may be suspended in it. And this proposition appears to open a new

field of study. Floating bodies do not affect the specific gravity; that should be evident. The specific gravity of water is not altered by a fish swimming in it. But if the fish was confined in a pycnometer, his weight would be added to that of the water, minus the water he displaces. When the fish dies he sinks to the bottom, because he is heavier than water. Only beginning decomposition brings him to the surface.

Many of the facts observed on urine, enumerated before, point out the probability that the urine must contain a substance interfering with many reactions and affecting the specific gravity. This substance is a so-called colloid, isolated by dialyzing the urine and present up to 2 to 4 gm. in the liter, ordinarily however much less. Colloid substances and their peculiar physical characters have been studied from the time of Graham until now with wonderful ingenuity, by Zsigmondy, Ostwald, Lichtwitz and many others. The ultramicroscope has shown how the submicrons are in continuous activity, their movements being due to the same kinetic energy which governs osmosis, gases, etc. As long as these colloids are active, they float; when they age, they may become precipitated, forming in urine with other substances the so-called nubecula. Hyaline casts in urine are probably such colloids. A peculiar function of these colloids in some cases is that they exert a protective function on other substances, i. e., salts, preventing their precipitation and holding them in a state of suspension. Now their presence will not be disclosed by specific gravity when determined by an immersion body, but by a pycnometer. Hence the discrepancy.

My experiments with gelatin with and without salt in small quantities added have led to the following conclusions:

1. Determination of specific gravity by immersion exhibits frequently a lower specific gravity than the pycnometer, due to ionization, expanding the fluid.

2. This also holds good particularly in weak, warm solutions of gelatin, due to kinetic energy.

3. A 0.2 per cent. solution of sodium chlorid in 0.2 per cent. solution of gelatin is lighter with an areometer than in the pycnometer, affecting the 3. decimal, due to the protective colloid.

4. A 0.2 per cent. solution of salt in gelatin determined by the Westphal balance equals that of gelatin alone, but is heavier by the weight of the salt added, if determined in the pycnometer, due to the aggregate weight in the latter. And this, I think, explains the fact of the absurdly light weight of urine in diabetes insipidus. The extreme dilution of the salts coupled perhaps with an excess of colloids, holds the former in suspension. Wherefrom do these colloids come? I have lately made many quan-

titative determinations of urines from patients suffering with Basedow's disease, who with their excessive appetite and metabolism show for instance enormous amounts of creatinin (in spite of opposite statements in literature), yet exhibit a moderate specific gravity of the urine. Possibly it is here the colloid from the thyroid; and in diabetes insipidus the colloid from the pituitary; for here also colloid is found.

Another factor may participate in lowering weight: absorbed gases. Gas bubbles are discovered in dried colloids, but of the behavior of absorbed gas in colloid solutions so far nothing seems to be known. My observations in this direction indicate that with the aging of a hydrosol (a colloid in solution) gas is liberated, appearing in a completely filled vessel as a gas bubble of notable size. Clearly this must alter the weight of the liquid. It must be the same with acetone and ammonia frequently present and causing misleading figures for specific gravity in glycosuria—namely, a comparatively low specific gravity in presence of much sugar. Therefore neither an unusual amount of precipitate, nor an unusual figure for specific gravity indicate per se a pathologic condition.

The case just mentioned is that of a girl now barely 14 years old (October, 1914). Her height is 5 feet 6½ inches, weight 184 lbs.; blood-pressure: systolic 130, diastolic 80 mm. Hg. There is a general adiposity, particularly of the breasts which are very large, with nipples of an adult woman. Head large, forehead prominent as in cases of former hydrocephalus. Otherwise proportions normal, muscular development quite considerable and heart normal. There is a decided increase of area of dulness over the manubrium indicating a persisting thymus gland (determined by aid of the tuning fork).

I was consulted in the case to discover if possible the cause of very peculiar attacks resembling epilepsy. When one year old she had suffered a fall on the occiput and 12 hours afterward had general convulsions, followed by a hemiplegia of the left side, lasting only one day. After this she seemed quite well for one year when she again suddenly had convulsions, now repeating about once a year. In her seventh year she had a particularly violent attack. Since then she had no well-defined convulsions, but attacks of what was believed to be petit mal, occurring about monthly, though not at regular intervals. For the last few weeks, up to October 25, the attacks appeared almost daily and exhibited the following character: she would, in the midst of a conversation suddenly talk nonsense, draw her face to the right while the left arm was extended, cry out from a most intense pain in the head, and after a few seconds, by the watch, be perfectly normal again. But the attacks would repeat every few minutes, about a dozen in series. There was

neither aura nor memory of the attack. At times this would happen at night, in her sleep, and she was then apt to fall out of her bed. Her character is infantile, she is not stupid by any means, but she is irritable and unreasonable. Menstruation was established about a year ago, very irregular and scant in spite of the most unusual development of the secondary sexual character—breasts and hair of pubes.

This was therefore a type of infantilism with sexual adiposity and almost a giant growth, referable to the hypophysis. In my presence she voided over one liter of urine in one act. To confirm the diagnosis I ordered a 24-hour urine, which amounted to about one gallon. Its specific gravity was 1002, it contained neither albumin nor glucose, nor any morphologic elements: a true diabetes insipidus. At the same time the urine colored somewhat darker on the addition of ferric chlorid (diacetic acid), there was an intense indican reaction plus a dark brown coloring substance (extracted by amyl alcohol indolacetic acid?), a decided reaction with Ehrlich's reagent (urobilin), and also a positive permanganate reaction (Moritz-Weiss test for urochromogen). Other substances were not tested for.

A very careful and repeated examination of the nervous system revealed nothing but a slight increase in normal reflexes. The eyesight and field of vision, including that for red and green (examined by Dr. Ewing), was quite normal. Still there was in her history a symptom pointing to the eyes. She told us that one day recently she had a pronounced erythropsia, everything looked red; and on another day everything she saw was slanting, seeming to be on an incline.

I ventured the opinion that there must be a pathologic condition of the posterior lobe of the hypophysis (diabetes insipidus and sexual adiposity) and not of the anterior lobe (neither acromegaly nor glycosuria nor chondrodystrophy). Certainly the intermediary substance must be involved.

The Roentgen ray was negative, did not show any enlargement of the sella turcica. Closer questioning tended to establish the fact that the polyuria dated only about 6 weeks back. So one might assume it to be a recent case; in other words, that the involvement of the pars intermedia occurred only recently, that primarily the posterior lobe was affected.

To confirm the diagnosis further Dr. V. P. Blair, who was now called into consultation, suggested observation in a hospital. As stated before there is a remarkable increase of tolerance for sugar in diabetes insipidus. Ordinarily about 120 gm. of glucose given in one dose will produce a so-called alimentary glycosuria in a person of such age. She was given on one day 300 gm.; on the following day 400 gm. glucose, and specimens obtained hourly. No

trace of sugar could be discovered. The specific gravity rose from 1003 to 1009 in six hours and after the tenth hour dropped to 1.0005 (?). The specimens with the higher specific gravity had a normal amber color.

After the tests a scanty 24-hour menstruation set in.

For further confirmation she was given 10 gm. salt in capsules, which did not affect the low specific gravity. The total output of urine was certainly increased, but due to some loss with defecation no correct figure could be obtained. With the menses appeared a short epileptic seizure.

On the next day Dr. Blair made a lumbar puncture which revealed nothing of importance except possibly a slightly increased pressure. Fluid reported normal (Dr. Larimore). Urinary output on the following day was 108 ounces, similar to the record of the preceding days. After this, from October 25th to November 12th, she had no more attacks of any kind. The patient returned home, in the country.

I must add that she is a member of a very healthy family, her sisters and brothers being quite normal in every respect, as are also her parents.

If one was quite sure of the presence of a tumor, partial removal of the hypophysis with the tumor would be indicated.

Aside from operative interference the management of such cases offers various problems. Withdrawal of drinking water is dangerous, useless and cruel. If we consider the fact of impaired function it would be wise to try to reduce the amount of solids in the urine, by a diet consisting of carbohydrates and fat, with as little protein as is compatible with health, little inorganic matter, salt, etc. One has tried with indifferent results to increase the secretory power of urine by diuretics, like theocin. In some cases strychnia has been praised, but others have obtained no results from it. Atropin gives no relief.

It is possible that extract of anterior lobe of hypophysis might do good, providing the cause is a hypofunction, not an adenoma, but a destructive process. Commercial pituitrin or hypophysin, a product made from the posterior lobe plus the intermediary substance would be contraindicated if we understand right that hyperfunction is the cause.

The substance of this paper, all but the discussion on colloids and specific gravity, was written November, 1914. I have lately heard that the patient is living but not in a condition to be brought here for a better study of her metabolism; she is said to be suffering much more from convulsions.

Meanwhile a paper has been published by Professor Hoppe-Seyler in Kiel (Nov. 30, 1915) in which he relates the story of a typical case of diabetes insipidus in which all symptoms.

were promptly relieved by injections of pituitrin, the complete relief of all the symptoms lasting only while the patient was under the influence of the injections and vanishing when they were stopped. The oral route was inert. He believes the cause to be hyperfunction. At the same time he has observed that pituglandol, otherwise supposed to be an identical preparation, had no effect whatever. According to Biedl, diabetes insipidus is due to a hyperfunction. He also states expressly that pituitrin is potent per os. The question now is, how much of the anterior lobe enters in manufacture of pituitrin, and how little in the making of pituglandol. How very effective the hypodermatic administration of pituitrin is in treatment of Graves' disease, I have had opportunity to witness. It acts also orally. So it is just possible that a small amount of anterior substance in pituitrin was the essential factor in Hoppe-Seyler's case. We know too little yet about the antagonistic and compensating functions of the three parts of the hypophysis-pituitary. The ductless glands bring new surprises almost daily. And so does urinary analysis if we would only not abide by old doctrines—and so does every other field in medicine.

Metropolitan Building.

SLEEP, AND ITS DISORDERS*

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Activity and rest are essential phases of living matter and they usually alternate periodically. The period of most complete rest experienced by man we designate as sleep. This is a state of unconsciousness of varying degrees and forms most particularly an interesting and puzzling part of the physiology of the brain. I say puzzling because the physiology of sleep is as yet but poorly understood. The chemistry of activity is catabolic. The chemistry of rest is anabolic. It is true there is never absolute catabolism or anabolism, but during the period of activity catabolic processes are in the ascendency while during the period of rest anabolic processes are greater than the catabolic. Insofar as we know sleep serves but one purpose, namely, compelling man to rest, so that the damage to his tissues which has resulted from his period of activity may be repaired, his reserve store of energy producing compounds may be replenished to supply energy for his next period of activity and that toxic matter may be removed.

I have stated previously and desire to emphasize at this time my belief that sleep is not essen-

tial either to life or health, provided that man be not wilful. Because of man's wilfulness he will not rest without sleep.

The most outstanding fact of sleep is the loss of consciousness. This state exists because of the suspended function of the cerebral cortex which is profoundly resting. The respiratory mechanism is resting and the respirations become slower and deeper. Costal respiration is more manifest than in the waking period, as costal respiration requires less expenditure of energy than does the abdominal type. The secretory glands are less active and the secretions are decreased in quantity. This is notably true of the urine, the lachrymal secretions and mucus of mouth, nose and pharynx. The pulse rate is decreased, the blood pressure is lowered and the distribution of blood in the body varies somewhat from that of the waking period. The blood flow in the extremities is increased during sleep while that of the brain is decreased. Mosso by experimenting on patients with trephine holes in the skull demonstrated that there is a direct relation between the depth of sleep and brain circulation. The lighter the sleep, the greater the flow of blood to the brain and the more profound the sleep, the less is the cerebral circulation.

Mosso also investigated the flow of the blood in the extremities both in the sleeping and waking periods. He demonstrated that there is a reciprocal relation between the blood flow in the brain and in the arm. From the beginning onward until the period of greatest intensity of sleep is reached there is a gradual decrease in brain circulation and a corresponding increase in extremity circulation. Later as the intensity of sleep decreases the amount of blood flow to the brain gradually increases and to the extremities decreases.

Kohlschutter concluded as the result of his experiments that the greatest intensity of sleep is reached about an hour after the beginning and continues until the end of the second or third hour. After that the depth of sleep is very slight. The activities of the brain lie just below the threshold of consciousness.

The recuperative effects of sleep are not proportional to the intensity. The period of slight intensity after the third hour of sleep appears to be just as effective in giving to the brain and other organs the needed rest as does the period of greater intensity.

Theories of Sleep.—Several theories have been suggested in an attempt to explain the nature and causation of sleep. Some of these theories are good and many of them are bad. Howel suggests the following as worthy of consideration:

First. The accumulation of acid waste products. Preyer and Obersteiner have suggested that the accumulation of acid waste products

* Read before the Jackson County Medical Society, Nov. 2, 1915.

in the blood as a result of the activity of the muscles gradually causes a fatigue of the brain cells and a depression of their activity to such a degree as to cause unconsciousness. Sarcolactic and allied acids accumulate in the blood during the period of muscular activity more rapidly than they are destroyed or removed from the body. During the period of rest there is a gradual decrease of these acids in the blood and as they decrease or disappear the sensation of fatigue also disappears.

Fatigue and unconsciousness may be produced artificially by the injection of lactic acid or sodium lactate in the blood. It has also been demonstrated that if the blood of a resting dog be injected into the veins of a dog that has been active during the day, after a corresponding quantity of blood has been withdrawn from the working dog, the sense of fatigue which has resulted from the work immediately disappears and he loses his desire for rest and sleep.

Second. Consumption of intramolecular oxygen. Pflüger suggests that the cause of sleep lies essentially in the fact that the brain cells during the waking hours use up their store of oxygen more rapidly than it can be replaced by the absorption of oxygen from the blood. Because of this reduction the irritability of the brain cells is decreased and the unconsciousness of sleep results. During the period of sleep or rest the intramolecular oxygen is replenished.

Third. The neuron theory. Duval and Cajal have attempted to explain the onset of sleep by the neuron doctrine. This is a very beautiful theory but not capable of demonstration and is somewhat as follows: For some reason unexplained the dendrites of the cortical cells contract and there is an interruption of their connection with the cells which primarily receive in the cortex the afferent impulses. Physiologic connections are reestablished on waking. Hodge has demonstrated, by experimenting on bees, that there are changes in the nerve cells during their period of activity. Crile, Cannon and others have also shown the effects of fatigue on the nerve cells. These effects are a chromatolysis, an irregularity of the cells and a decrease in their size, the nucleus becoming acentric; but the contraction with the breaking of the physiologic connection between the cells has not been demonstrated.

Fourth. Anemia theories of sleep. Mosso, Howel, Brush, Fayerweather and others have demonstrated that there is a fall of arterial pressure during sleep. It has also been demonstrated that there is an increased peripheral circulation and a decreased brain circulation. Howel suggests that the anemia of the brain is a direct result of the dilatation of the peripheral blood vessels and of the decreased arterial pressure. There is a direct relation between

mental activity and blood supply to the brain. During the period of greatest mental activity the blood pressure is increased and there is a corresponding decrease of blood pressure during the period of brain rest. It is Howel's theory that the vasomotor center becomes fatigued during the working period and the resulting fall of blood pressure which is secondary to the dilatation of the peripheral blood vessels produces anemia of the brain which results in sleep. Voluntary rest without extreme fatigue also results in a fall of blood pressure, brain anemia and an increased peripheral circulation. Even though there be not profound fatigue of the vasomotor centers, sleep may be induced in this manner. A production of unconsciousness is also aided by the fatigue of the cortical cells. There are three factors operative in the production of sleep, viz:

First. Brain anemia as a result of the fatigue of the vasomotor centers.

Second. A further fall of blood pressure and an increase of brain anemia by the state of rest in which we place ourselves preparatory to going to sleep.

Third. The fatigue and lowered irritability of the cortical cells. In order that sleep may come on uninterruptedly there should be a proper setting prepared. Attempting to sleep in strange places or under unusual conditions frequently results in disappointment. Unusual sensory stimuli of whatever sort may prevent sleep in the nervous individual.

The psychologic state must also be favorable if sleep is to come at the expected and usual time. The fixation of the attention is one of the essential conditions of going to sleep. The mind that gives itself up to an endless pageant of ideas presents one of the best known types of insomnia. Concentration of the attention if intense is not compatible with sleep.

Disorders of Sleep.—One of the very interesting questions regarding sleep concerns the condition of the mind during repose. While the body is awake the mind is active. The occurrence of dreams would indicate that this activity does not entirely cease during the period of sleep. The phenomena of dreams proves that the various intellectual processes, such as memory, imagination, attention, emotion and even volition, may still be exercised while every external avenue of special sense is closed by sleep.

These facts would indicate that the mind is never wholly inactive during deepest sleep. It is true that we remember very few of the events that occupy the mind in dreams, but this cannot be urged against the doctrine of continuous mental action, for we can remember very few of the images and ideas which have stirred the depths of consciousness during the waking period. The substance of our dreams appears

to be concerned with a combination of remote and recent events which have happened during our periods of consciousness. An analysis of our dreams indicates that they are wish-fulfilling in character and either literally or symbolically the expression of an unfulfilled wish.

Night terrors are usually observed in young children of a highly nervous temperament who are generally of neurotic descent. There is evidently dissociation as all of the cerebral cortex does not act during the period of excitement, some parts being quiescent while others are in a tumultuous uproar. The cause of night terrors is not fully understood.

Somnambulism is another disorder of sleep which also occurs in persons of neurotic temperament. In this state, too, there is dissociation of the cells of the cerebral cortex, some being active while others are quiescent.

The disorders of sleep just mentioned occur principally in those having structural defects and are more concerned with the quality of sleep. The pathologic modifications of sleep are principally concerned with the quantity. Excessive sleepiness is termed somnolence and occurs in those of feeble intellect. It may also be observed in elderly people and in some cases of cerebral syphilis and epileptic and hysterical persons. It may occur in sufferers of anemia, leukemia and myxedema.

Insomnia is understood to mean an inadequate amount of sleep or loss of a normal amount of sleep. It may vary in character from slight restlessness to total loss of all sleep. The amount of sleep required by a normal person varies very considerably with age, habits, occupation, mental development, etc. A baby sleeps the greater part of the time and young children should sleep from eight to ten hours or even longer. Between the ages of 16 and 25 about eight hours out of twenty-four should be spent in such rest as sleep gives. After that the hours of sleep required vary considerably. Some do very well on three or four hours, the average requirement being six to seven hours. Eight or ten hours is rarely necessary, but habit may convince one that that much sleep is needed. I believe six to eight hours should be spent in a state of relaxation and rest, but I do not believe it is at all necessary that the time should be spent in sleep. I believe Nature has provided long hours of sleep for young children because of the fact that they will not rest at all unless they are asleep.

Insomnia, then, as we understand it is a variable term. Some allege insomnia if they sleep six or eight hours out of the twenty-four while others do not complain of insomnia even though they do not sleep more than three hours. Insomnia is not a disease, but is a symptom of a disturbance of the normal physiology of the cerebral cortex and as such symptom it

is of most common occurrence. It has been my experience that at least 50 per cent. of those who consult me complain of sleeping inadequately.

The causes of insomnia are many and various. Germain See divided the causes into dolorous, digestive, cardiac, cerebral, spinal and neurotic, dyspeptic, psychical insomnia, cerebral and physical fatigue, genito-urinary, febrile and toxic. A division into four I think adequate for all practical purposes.

First. Irritative causes. Under this division are grouped all those causes of insomnia such as pain and like uneasiness occurring in gastrointestinal disorders, headache, trifacial neuralgia, thoracic and abdominal pains, pains of neuritis, rheumatic and gouty pains, brain tumor, meningitis, etc. Irritation of the skin as in eczema and like disorders and symptoms growing out of irritation of the respiratory passages may be responsible for insomnia, but the most important of the irritative group is undoubtedly pain. Of all diseases accompanied by pain insomnia is a symptom.

Second. Toxic causes. General intoxication of whatever cause may be responsible for insomnia. The most important of these intoxications is the following: Alcoholism, tea, coffee and tobacco, influenza, hepatic disorders, intestinal disorders, rheumatism, gout, nephritis and some of the sleep disorders associated with cardiac disturbances.

Third. Causes arising from change of mode of life. Changing the hours of sleep, eating at irregular hours, or a change of altitude may produce insomnia.

Fourth. Psychical causes. These causes I believe to be the most important of all causes in the production of insomnia. Grief, shock and mental anxiety are among the most frequent causes. In a neurotic subject insomnia may be established as a habit. Excessive mental work, if accompanied by anxiety results in insomnia. In the many forms of insanity insomnia is one of the most common symptoms. In manic depressive states, melancholia and general paralysis of the insane, insomnia is almost always a symptom. But of all the causes of insomnia I believe there are two that are more important than all other causes combined; I refer to morbid fear and the loss of the attentive control.

Observation teaches us that insomnia from these causes is most injurious and detrimental to health. In this connection I desire to call attention to certain principles which govern the functioning of the nervous system.

First. Complex formation. It is a law that associated ideas, emotions, feelings, sensations, visceral functions of whatever kind, tend after constant repetition or when accompanied by strong emotion or feeling tone, to become linked

together into a system or group in such fashion that the stimulation of one element in the group stimulates the activity of the rest of the group. Such a group is conveniently called a complex.

Second. Conservation. Another principle or tendency of the functioning of the nervous system has been firmly established by repeated experimentation and observation. It is this: all our experiences, anything that we have thought, seen, heard or felt, tend to be conserved in such a way that they can be reproduced in the form approaching them in the original experience.

Third. Dissociation. The next principle to which I desire to call attention is dissociation. A characteristic type is functional amnesia or forgetfulness by which an epoch or long period of time is blotted out of the memory.

Fourth. Automatism. In the mechanism of the normal psychic life automatism plays a much larger part than is generally realized. We see it in habit actions and absent-minded acts when our attention is directed to some other train of thought than that engaged in the action. It tends to the conservation of effort. In establishing fixed habits of thought, forming deeply rooted ideas, points of view, etc., we form complexes which are capable of more or less automatic action.

Fifth. Emotional energy. It is a fact of observation that intense, strong emotional feeling is accompanied by an increase of the vital functions and certain depressive emotions and feelings are accompanied by a decrease in the vital functions.

It is generally recognized by psychopathologists that most if not all ideas have feeling tones attached to them. When certain complexes of ideas which have a pleasant feeling tone are brought into the personal consciousness there is awakened a state of energy, a feeling of well-being and invigoration of the whole organism; while on the other hand when complexes of ideas which have depressive or distressing feeling tones are brought into personal consciousness the contrary effect is produced. Briefly, exalted emotions have a synthetizing effect; depressing emotions have a disintegrating effect.

Of all the depressive emotions the one which is most productive of evil is the emotion of fear. It is one of the most primitive instincts of animal life. As Kipling puts it, "Fear walks up and down the jungle by day and by night." "Fear is rooted deep down in the very organization of animal existence." "It takes its root in what is the very essence of life, the instinct of self-preservation." As Sully says, "It appears early in the life of the child and seems to appear low down in the neurological scale." "Fear," says Darwin, "is the most depressing of all the emotions." The fear of coming evil,

especially if it is unknown from experience, gives rise to a feeling of anxiety. "If we expect to suffer," says Darwin, "we are anxious." "The anxious condition of mind, says Bain, "is a sort of diffuse terror." Anxiety is nothing else but the working of the instinct of fear. "Anxiety, fear, horror," says Mosso, "will twine themselves perpetually around the memory like deadly ivy, choking the light of reason." "Fear may seriously disorder every function and tissue of the body." Sidis says that the feeling of anxiety and all its accompanying phenomena is one of the manifestations of the most fundamental and most primitive of animal instincts. It is the fear instinct which is at the basis of all psychopathic or mental maladies.

Fear and morbid anxiety are the most common symptoms in psychopathic conditions and perhaps in all medicine. William McDougal in "An Introduction to Social Psychology," associates the instinct of flight and the emotion of fear. He says the instinct to flee from danger is necessary for the survival of almost all species of animals and in most of the higher animals the instinct is one of the most powerful. On its excitement the locomotory apparatus is impelled to its utmost exertions and sometimes the intensity and long duration of these exertions is more than the visceral organs can support so that they are terminated by utter exhaustion or death.

These locomotory activities are accompanied by a characteristic complex of symptoms which in its main features is common to man and to many of the higher animals, and which in conjunction with the violent efforts to escape constitute so unmistakable an expression of the emotion of fear that no one hesitates to interpret it as such; hence, popular speech recognizes the connection of the emotion with the instinct that determines the movement of flight in giving them the one name, "fear."

Fear operates in a variety of ways to cause disorders of sleep. I have seen many patients kept awake night after night because of the fear that if they fell asleep they would never awaken. They walk the floor, sit up in a chair all night long fighting sleep for fear of the result if they go to bed, greatly agitated and panicky because they are afraid to go to sleep. Morbid anxiety because of the fear concerning one's health, extending over a long period of time, is a potent cause of insomnia; especially is this true of the fear of insanity. It is a very common symptom in neuropathic states.

The idea that sleep is an absolute essential to continued mental health and even life is deeply rooted in the popular mind and that deprivation of sleep is a direct sign of both physical and mental breakdown is also believed. This belief is so firmly fixed in the mind of the ordinary person that if for any reason sleep is inter-

rupted one or more nights a state of morbid anxiety concerning the health and a fear of insomnia develops. Out of this state of fear and anxiety a panic may develop, and nothing can withstand a panic. The attention is fixed on the idea that sleep is impossible and the accompanying idea that insanity and death may soon result introduces another symptom, "the loss of the power of the attentive control." This is one of the most common mental factors in the production of the neuroses and neuro-psychoses.

The number of persons who manifest a loss of attentive control is increasing at an alarming rate. In practice these patients are known as neurasthenics, psychasthenics, hysterics, anxiety neuroses and some of the obsession psychoses. The symptom is much the same in all. The patient is a victim of indecision, cannot make up his mind on any subject, he has lost the power of mental concentration, he has lost his will power and in many instances his mind seems bound with unbreakable chains, to one particular idea and the idea which binds the attention of the patient with a sleep phobia is the feeling that when he goes to bed he cannot sleep and if he does not sleep he is going to die or become insane. This idea occupies his attention during a considerable period of the day and night. Other ideas are crowded out and he cannot give attention to the experiences or the events of his daily life. He therefore suffers from an apparent loss of memory. He does not remember because he does not give attention. Failure of his memory further convinces him that he is losing his mind because he reasons that his memory is a fundamental quality of the normal mind, that as his memory is weakened therefore his mind must be weakened and his insanity phobia becomes more intensified. The state of mind which results is certainly not compatible with sleep. Such a mental state is most favorable to the development of physical exhaustion.

Man to become adapted to his environment must be a transformer of energy. This adaptation to environment is made by means of a system of organs evolved for the purpose of converting potential energy into heat and motion. The principal organs and tissues of this system are the brain, the adrenals, the thyroids, the muscles and the liver. Each is a vital link, each plays its rôle and one cannot compensate for the other. Crile by his experiments and observations has demonstrated and has explained in his work, "The Origin and Nature of the Emotions," the effect of all the depressing emotions on the cells of these organs.

Cannon in his work, "Bodily Changes in Pain, Hunger, Fear and Rage," discusses the antagonism of the autonomic and vertebral sympathetic nervous systems in relation to the emo-

tions. He says the cranial autonomic is concerned with the quiet service of building up reserves and fortifying the body against times of stress. Accompanying these functions are the relatively mild pleasures of sight, taste and smell of food. The possibility of existence of these general delights of eating and drinking and also their physiologic consequences is instantly abolished in the presence of emotions which activate the sympathetic division. The secretion of saliva, gastric juice and pancreatic juice is stopped, the motion of the stomach and intestines ceases at once, both in man and the lower animals, whenever pain, fear, rage or other strong excitement is present in the organism. The stimulation of the vertebral sympathetic by fear and morbid anxiety immediately causes an increased secretion of adrenalin. An increased amount of adrenalin in the blood causes an exhilaration of the respiratory and circulatory mechanisms and one of its most important results is to cause the liver and muscles to release their reserve store of glycogen. This is thrown into the blood as blood sugar and that which is not needed for immediate consumption is excreted by the kidneys.

McDougal says that the release of the glycogen under the influence of fear, rage, pain, etc., is a provision of Nature to prepare the body for great exertion in either combat or flight as inclination or necessity may require. Glycogen released under the influence of sleep phobias or insanity phobias is not used for the production of energy and therefore is wasted. If the fear extends over a considerable period of time there is a gradual consumption, or if the fear is intense, a rapid consumption of the energy producing compounds of the body and a state of mental and physical exhaustion results.

McDougal has likened our store of nerve energy to a reservoir with many gates. When we desire to use nerve energy in any direction, the gate admitting the energy to flow in that particular direction is opened, and closed again when we have no further need of a flow of energy in that direction. In states of fear and anxiety and loss of the attentive control the whole system is disorganized. Several gates may be thrown open at one time allowing an escape of nerve energy in directions not needed and it is therefore wasted. The loss of the power of attentive control prevents the mind from concentrating in the direction desired and the nerve energy cannot be directed.

Insomnia is said to cause exhaustion. It has been my observation that in the absence of fear, morbid anxiety and loss of the attentive control as associated with insomnia there is no exhaustion. I have not seen a case of nervous or mental exhaustion result from uncomplicated insomnia. If a better understanding was had by the public of the physiology of sleep, dis-

orders of sleep would not cause the fear so frequently seen. If we would explain to our patients that they go to bed to rest and not to sleep and that if they rest quietly throughout the night they can accumulate a store of nerve energy for the stress of the following day even though they do not sleep, but if they retire with the idea of resting and not sleeping, sleep will come to them unsought. Sleep is a very timid creature and if sought too assiduously it runs away.

It should be carefully explained to those who worry about sleep that the loss of sleep alone will not cause insanity or death but that the fear of insomnia, the morbid anxiety about health and the consequences of insomnia, if continued over a period of time, may cause physical and mental exhaustion and perhaps insanity or death.

By a course of reeducation, by explanation we can oftentimes remove these fears from our patients' minds and help them back to a normal mental state, send them to bed in a composed state of mind with the idea of having a good night's rest even though they do not sleep, and if they rest they will usually sleep, we can thus relieve them of their fears, relieve them of their anxiety, cure them of their insomnia, and save them from the consequences of a distressing and disintegrating emotion.

The Use of Hypnotics.—Hypnotics to produce sleep are extensively used by physicians. The list of such substances is a long one and many theories have been advanced as to the mode of their action. They should raise the threshold of the brain to external stimuli, should quiet motor excitability and blood pressure should be lowered. It has been suggested that the lipoids of the cortical cells are liquefied by the hypnotics and in this manner their irritability is reduced. Many of the hypnotics have harmful side actions on respiration, circulation, metabolism and gastric digestion. In conditions of great motor excitability the dosage of hypnotics sufficient to quiet the patient and induce sleep may be sufficient to cause death. Repeating large doses at short intervals is always dangerous and it is a good plan to change the hypnotic after a few doses have been given. Hydrotherapy may be used successfully as an hypnotic. Continuous warm baths given for hours or days oftentimes give relief and especially to patients with great motor excitability. Bed packs given at 70 F. for a period of one or more hours is also helpful. A warm bath at bed time may act as an hypnotic but its action is at best uncertain. High frequency and static electricity have some hypnotic properties. Massage may also aid in overcoming insomnia. Chloral hydrate and chloral derivatives have long been used as hypnotics, chloral hydrate having been used the longest of any member of

the group. It is readily soluble, is irritating to the mucous membranes and should be given well diluted. It is habit forming in character, has harmful side actions on metabolism, and is depressing to the circulation. Its continuous use frequently results in insanity, the type of psychosis resulting being of the nature of melancholia. I believe its use should be limited to the alcoholic psychoses and psychoses of a similar nature in which there is considerable motor excitation. It should never be given over a long period of time. The principal chloral derivatives are chloralimid, dormiol and isoporal. None of these are superior to chloral and I know of no reason why they should be substituted for it.

Paraldehyd is an hypnotic of much value. It is quite free of harmful side action on the circulation, respiration and metabolism. It has a disagreeable taste and odor which does not encourage habit formation. It can be used in dosage of 3 to 6 gm. with safety and frequently gives excellent results. It is especially beneficial in the insomnia of the aged. The habit may be acquired and in large doses poisonous effects may be demonstrated.

Sulphonal and trional are very widely used as hypnotics. They can be given in doses of 1 to 2 gm. They produce no harmful effects on the respiration, circulation or digestion, but if their use is persisted in they harmfully disturb metabolism. The symptoms of poisoning are ataxia, constipation, vomiting, abdominal pains and symptoms of irritation of the kidneys, albuminuria and nephritis. They are also destructive to hemoglobin causing the appearance of hematoporphyrin in the urine. If these drugs be used the urine should be examined frequently as the reddening of the urine is an indication that too much of the drug is being given. In depressive states such as melancholia, in which there is considerable disturbance of metabolism, sulphonal and trional should not be given. Of the two drugs, trional is preferable to sulphonal. It is more soluble and more readily eliminated from the body. It is also more rapid in its action. Aspirin in 10 and 15 grain doses oftentimes acts as an hypnotic, especially if the insomnia is the result of pain. Bromids are quite extensively used as hypnotics; they quiet restlessness, tend to lower the irritability of the brain and spinal cord. They are sedative but not hypnotic in their action.

The Veronal Group.—To this group belong a number of hypnotic drugs. Veronal is widely used as an hypnotic both by physicians and the laity. It is habit forming and cumulative in its action. Its use is not unattended with danger, two deaths having been reported in healthy adults after taking 10 grains. I have seen several cases of poisoning, one in a girl after

40 grains had been administered during the twenty-four hours.

The sodium salt of veronal, medinal, I consider a much safer drug. It is readily soluble in water and after using it for several years I have not seen any harmful side effects. Five to 15 grain doses produce sleep quite natural in character. It may cause vertigo and ataxia in large doses.

Opium and its derivatives have been used as hypnotics. They are not hypnotics, although they may be useful in insomnia resulting from pain and as sedatives. Crile and Cannon have demonstrated that opium and its alkaloid morphin retard the onset of exhaustion in depressive emotional states. They prevent the adrenalin from robbing the muscles and liver of their glycogen, they prevent chromatolysis and are useful in those cases of insomnia with great agitation and emotional depression.

SUMMARY

Sleep is Nature's method of giving to man rest. Rest, with relaxation, is an excellent substitute for sleep. Morbid anxiety about going to sleep and the fear of insomnia and its consequences are the most potent of all causes in producing insomnia. Trying to go to sleep encourages wakefulness. We should retire and we should tell our patients to retire with the idea of resting and in so far as possible to exclude all ideas of sleep from the mind and if they get the rest idea their insomnia will leave them. All hypnotics are injurious and detrimental to health. They should not be given over any considerable period of time. Their continued use produces harmful side actions on circulation, respiration, digestion or metabolism.

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EXPERIENCES IN THE CANAL ZONE WITH SPECIAL REFERENCE TO MALARIA AND LEPROSY*

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"Beyond the Chagres River are paths that lead to death"—so quoted those who in 1909 bade farewell to the ship that carried me down South in the Torrid Zone.

After quarantine inspection we were conveyed in a few hours by special train, passing by dense jungle, thatched huts and the many species of orchids seen perched on the heights of the trees from the Atlantic to the Pacific, to our destination, Ancon Hospital. From personal observation on this short journey among

the hundreds of robust-looking and energetic canal workers, none had the appearance of becoming a victim of the dreaded native Chagres fever. In various directions could be seen the sanitary inspectors vigorously applying their method of malaria prophylaxis—draining swamps and ditches. The average young mosquito during its state of development lives under the water and has to make perhaps several thousand trips to the surface for air before it can spread its wings and fly. A drip barrel containing oil is placed at every little rivulet the oil is carried down to the marshes, covering the water and closing off the air, consequently the death of the mosquito follows by asphyxiation. About 140,000 gallons of oil are used yearly. Isolated places and ditches around the cottages are sprayed by men who carry tanks on their backs filled with larvecides.

Malaria being transmitted by the female anopheles mosquito a special effort was made to destroy the breeding places within 200 yards of camps and villages, to protect laborers along the line of the canal, and since the anopheles when filled with blood cannot fly very high and one week must elapse before the mosquito that has bitten a person infected with malaria plasmodium can transmit the infection to another person, the method of catching the mosquito by hand, using chloroform for the purpose, also proved of great value in the temporary camps. The enforcement of sanitation has been a gigantic task in the Canal Zone and the cities of Colon and Panama. The force of canal workers was composed of Americans, Europeans and the West Indian negro; in fact, every nationality was represented except the Eskimo. The color line was kindly drawn by designating the negroes as silver employees and the Americans as gold employees. To effect the divisions, signs read "Silver Employees" or "Gold Employees" rather than "White" or "Black." The American and other white employees holding qualified positions are paid in American gold currency. The negroes and other silver employees are paid in Panamanian coin, which is the same in size as our American silver dollar. Two dollars of Panamanian silver are worth \$1 of American.

The American and other gold employees have lived since 1906 in quarters provided by the United States government—screened doors and verandas and every provision for sanitary measures. Any gold employee sick over twenty-four hours must report for sick leave. Free hospital care is given without loss of time or position. The system of eight-hour duty is broken at noon for two hours to avoid exposure to the midday sun. Until 1914 a sanitarium in the malaria free Island of Taboga, Gulf of Panama, was maintained for the convalescent patients.

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Among the silver employees are classed Europeans, Spaniards and Italian laborers. Screened quarters are provided for them, yet at night they would mingle with the natives and sleep out of doors. According to Mr. Le Prince, chief sanitary inspector, an increase in malaria among them is always attended by an excessive consumption of rum, believing that the drink is an efficient medicine. Therefore, the parasite is more partial to the European. The American takes quinin at the onset of the fever. The sale of alcoholic drinks is prohibited in the Canal Zone. Jamaica and Barbadoes being comparatively free from endemic malarial fever, the West Indian negro is not immune to primary infection of malaria. Screened quarters are also given this class. They prefer to be bush-dwellers and live on mango, sugar cane and yams and herd together with the natives in a hut, exposing themselves constantly to endemic malarial infection. The West Indian negro possesses a splendid erect bearing from the habit of balancing packages of every description on their heads when traveling by foot. The half-grown children, clad in Eden's costume, are adepts in imitating their parents.

A cab drawn by a tropical native horse, man-
aged by a West Indian negro or by a Spaniard, was, until 1913, the regular street conveyance by which any point of interest in the historic cities of Colon and Panama could be conveniently reached for the sum of 20 cents silver—that is ten cents gold in American currency.

Seasons are divided into the "rainy," lasting eight months, and the "dry," lasting four months. The average temperature during the day is 70 to 88 F. The nights are very cool, making the use of blankets necessary.

All along the line in every village were free dispensaries and rest camps. The hospital car brought the sick daily to Panama City where a number of ambulances received and transferred them to Ancon Hospital. From the "gate," the admitting office, through a systematic distribution, each class of patients was taken to their respective ward. Ancon Hospital being situated on the slope of Ancon Hill overlooking the Pacific Bay, consisted of thirty-four wards, all separate one-story frame structures scattered over the grounds; these were built by the French, to whom also credit is due for the picturesque landscaping of Ancon Hospital reservation. When Americans took possession of the hospitals in 1904, water for every need was conveyed by wagon to each ward daily in tanks and refuse carried away. At night candle light was the only illumination—for street light a lantern. In 1909 there were no traces of these primitive days. Yellow fever was wiped out. Mosquitoes and flies were best seen in the cages of the research department, for sanitation had

made the reservation comparatively free of these invaders. Pneumonia, amebic dysentery and uncinariasis in its most fatal form was found in the European and the negro. The negro medical wards, two-story frame structures built by the Americans, contained 223 beds and claimed the highest percentage of admissions; during the rainy season from twenty to fifty patients daily. It was appalling to see ten to twenty stretcher cases among them, stricken down by the poison of the malaria mosquito. The result of the systematic and expeditious distribution, examination and treatment given by the efficient staff of physicians and American nurses caused a daily "discharge" of from thirty to fifty patients "able to work."

From the three-story frame building for nurses, which is surrounded by a copper-wire screened veranda extending from the foundation to the roof, the most magnificent view can be obtained of the canal and the ships passing through. All hospital wards, married and bachelor quarters are likewise screened against mosquitoes, flies, lizards and scorpions. Thus all buildings are open-air structures.

In the officers' mess hall nurses and doctors are served three meals daily. The food is prepared in the common kitchen in the style of a first-class American hotel.

The nurses' tea-room, decorated with ferns and palms, offers a restful hour for afternoon tea. The reception hall invites daily pleasure. Sea bathing or horseback riding on the gentle native horse searching for untrodden trails through the mysterious jungle, give the most interesting recreation to nurses, doctors and other employees by day and by moonlight.

The incessant thundering echo of dynamite blasting causing earth and houses to tremble did not disturb the daily routine of affairs. However, one midnight in October, 1913, an earthquake swayed the nurses' quarters perceptibly. In a moment all inhabitants were congregated in the street, yet soon returned laughing bravely over the sudden fear. All employees seemed to be imbued with the one great purpose of finishing the canal and appreciated the daily stupendous progress in the work. Even the Cucaracha slide is a mere removable obstacle.

The food for all hospitals is carefully selected. About 100 cows are maintained to provide abundance of milk for all patients.

All schoolchildren must undergo a medical examination before the beginning of each session. This method would be commendable in our school work.

A hospital system strictly enforced by the superintendent of Ancon Hospital, Col. Chas. F. Mason, now Chief Health Officer; a routine examination of the blood is made whenever a patient is admitted to the medical wards.

Malaria is the cause of the highest percentage of all admissions. Malaria is determined thus: Positive malaria if parasites are found in the blood. (a) Estivo-autumnal; (b) tertian; (c) quartan is rare. Where physical examination justifies the diagnosis is clinical malaria.

The systematic treatment of malaria is: On admission T. P. R. q. four hours—liquid diet. Specimen urine in A. M.

Medication: Calomel, gr. iii. Quinin solution gr. xx. Epsom salt solution four to six hours later. On each consecutive day quinin solution gr. x. to gr. xv., t. i. d. P. C.

In primary attacks of the estivo-autumnal form heroic doses of quinin, 45-60 gr., are given daily in solution and in some cases an additional 22½ gr. hypodermically once or twice daily. The cerebral type, most found in the negro, where there is parasitic invasion of the capillary vessels of the brain causing coma and great prostration, temperature 104 to 107 and higher, quinin is given in normal saline solution intramuscularly for several days until patient is able to retain quinin taken by mouth.

The rule is to give quinin preferably by mouth and in solution, as it is more readily absorbed. The danger of introducing quinin by the intramuscular method is the slow or nonabsorption of the drug, often causing abscess or necrosis of the adjacent tissues.

In heavy infections malaria will not yield to quinin within from four to seven days. Temperature drops below normal followed by profuse perspiration. For seven days after drop of temperature quinin solution gr. x and iron mxv t. i. d. is given and full diet. If no chill the patient is discharged "able to work" and instructed to report to nearest dispensary daily for thirty days, taking quinin and temperature, and to avoid exposure to the mosquito bite at night. In cases where temperature persists complications are suspected and are treated symptomatically.

Americans and Europeans are alike susceptible to malaria. Syphilis is an additional factor to malarial relapses. The negro gives the highest death rate in the estivo-autumnal type.

Associated with pernicious malaria we found: The appearance of blackwater fever, the native Chagres fever, or hemoglobinuria. From the study of Deeks-James, reported in 1911, it is shown that a larger percentage of cases of blackwater fever than malaria were sent to Ancon Hospital. That blackwater fever is dependent on a malaria infection at some previous time and the presence of the malarial parasite immediately prior to the attack of blackwater. Also, that hemoglobinuria prevails among races in direct proportion to the amount of malaria among them. Europeans having the highest

average in malarial relapse therefore, have the highest average in blackwater fever. Relapses are most frequent in estivo-autumnal malaria. Blackwater fever is an acute noninfectious disease, and the malaria parasite is the only organism found. Blood examination showed 76 per cent. estivo-autumnal positive.

It then appears that a toxin accumulated in the human organism as a direct result of malaria infection plus quinin does cause hemoglobinuria. It is necessary to raise the patient's resistance to a maximum and eradicate malaria with a thorough treatment of quinin.

Clinical types of blackwater fever, hemoglobinuria or Chagres fever: (a) Onset with severe chill and fever 100 to 104 F. and blackwater for one to three days. (b) The persistent passing of blackwater for longer period with or without fever.

Onset of attack: Suppression of urine followed by hypersecretion. Hypersecretion favorable unless persistently passing of blackwater.

Average urinary findings: Hemin crystals, albumin and casts.

Symptoms: Intense jaundice, anemia, liver and spleen large and tender.

Treatment: Calomel and Epsom salts. Quinin if parasite positive. If quinin not retained should be given hypodermically gr. x. q. six hours.

Normal saline solution 8 to 16 ounces per rectum every three hours. Hot stupes over loins. Daily urine examination.

Milk for several days. Bashams mixture, Fowler solution later.

Stop quinin if blackwater reappears. Treatment varies with conditions, in women especially. In some cases petechial hemorrhage appears

Duration: About three weeks.

This method of treatment gave a low death rate—about 15 per cent.

Recovery has been noted in red blood count of 800,000.

DIFFERENTIAL DIAGNOSIS OF BLACKWATER FEVER AND MALARIA

The clinical picture of blackwater fever presented by the appearance of the eye is characteristic and remains so for a considerable period after blackwater has ceased. The conjunctiva is of a uniform lemon yellow tint, varying in depth of shade, but always lighter near the cornea according to the severity of the jaundice. The subconjunctival blood vessels are depleted and pale.

In malaria the blood vessels are injected and the icterus is less marked.

THE CARE OF LEPER CASES BY U. S. GOVERNMENT

All leper cases are admitted to Ancon Hospital for observation.

If clinical symptoms justify or laboratory findings positive for *Bacillus leprae*, the patient is transferred to Palo Seco, a high and dry place situated a short distance from the Pacific entrance of the canal.

Leper Asylum: Established in Miraflores, Canal Zone, December, 1904. Ten patients taken over by Americans in January, 1905. Transferred to Palo Seco, April, 1907. Not all patients are charity cases; about thirty-four pay. There were fifteen charity cases in 1913. Average number of patients about forty-nine at present, male 34, female 15. Five children are under 12 years. Relatives are permitted to visit once a month. Food supply received three times a week. An effort is made to cook for the Panamanian patients in the style they are used to and to supply the same clothing they usually wear.

The *Sanidad*, U. S. government launch, carried the sanitary inspectors and Dr. F. M. Evans, physician in charge, from Balboa to Palo Seco regularly.

Form of leprosy most prevalent: Mixed, nerve, nodulae.

Pulse and respiration: No change from normal while no acute exacerbation is in progress, then continuous fever with a range from 100 to 103 in evening. Fever begins to rise from 3 p. m. on to midnight, then subsides with a profuse sweat.

Prognosis: No recovery has been noted but the disease may be held in check. In some cases it becomes stationary without any apparent progress. Such cases can go on for twenty to thirty years. Death always from an acute disease and in a great number of cases not connected or brought on by leprosy.

Treatment: Good food and an effort to get them to indulge in open-air work.

Medication: Oil chaulmoogra, 5 gtt. t. i. d., increasing 1 gtt. per dose to as high as 90 drops per dose.

Inunctions: Oil gynocardia and sweet oil, aa 50 per cent.

Bed patients: About 1 per cent. Symptoms are treated symptomatically as they arise. Inter-current diseases treated as usual.

Total cost of maintenance per patient: About \$1 per day.

The common tropical house fly deposits eggs in ears and nasal fossae of persons sleeping in open air; the larvae is hatched resulting in screw-worms, which are white and have twelve segments.

Suspect Leprosy.—Native Panamanian, male, aged about 40 years, on admission temperature 101. Forehead, heavy folds. Facial expression that of leprosy. No history could be obtained.

Culture for leprae bacillus, negative. Wassermann, positive.

Examination of Nasal Fossae.—Abnormal growth. On incision a mass of screw-worms rolled out.

Treatment.—Daily chloroform application and curettement. Nasal douche of permanganate solution 1:5,000 and a course of potassium iodid.

After several weeks patient discharged "able to work" and relieved of thirty or more screw-worms.

Dr. L. B. Bates, bacteriologist of Ancon Hospital, reports from Wassermann tests made in forty-two cases of leprosy, 47 per cent. positive for syphilis.

Positive Leprosy.—CASE 1.—Pedro Perez, male, aged about 35 years. Admitted to isolation ward Ancon Hospital in 1910; was found by health officer in a congested part of Panama City, face and body covered with well-marked lesions of leprosy. The disease was in the ulcerative stage; an indescribable stench from the nasal mucosa and ulcers so that it was necessary to renew the dressings every three hours. Fingers and toes distorted. Ulcer of foot exposing metatarsus. The head had abundance of hair; the disease never attacks hair of the head, but does that of the body. After one week patient was transferred to Palo Seco, willing to spend his future in the colony. Under treatment patient improved rapidly. The women and men are segregated but in 1911 Perez applied to the sanitary department for permission to marry an inmate of the asylum. This caused an interesting investigation which showed that in no case did the child of leper parents present symptoms of leprosy at birth or at some years later. So consent was given allowing a legal marriage. A cottage was built and a patch of land given to them for cultivation. Both inmates, in January, 1915, were still united and contented. Condition of the disease apparently stationary.

CASE 2.—In 1909 a woman with positive leprae bacillus was transferred to Palo Seco with her four children, ages ranging up to 10 years. The three elder children had the disease. The woman came from Darien, and after a time left the colony taking with her the youngest child at breast which had no leprosy.

CASE 3.—A Panamanian, mother of several children, brought boy of 5 years to the hospital for treatment.

History.—Febrile attacks and excessive sweating.

Inspection.—Small maculae on left cheek and ear.

Examination.—Heart and lung negative. Culture from nasal mucosa positive for leprae bacillus. Transferred to Palo Seco. Two months later the disease had made rapid progress. No symptoms of leprosy discovered in any member of the family.

The superintendent of the Palo Seco leper colony and his wife are both graduate nurses. They give personal attention to male and female patients. The United States government provides colored employees for kitchen, storehouse, linen-room and laundry. No leper patient is allowed in any of the departments. They take part in cultivating tropical plants and fruits—pineapple, yams and mango are their favorite fruits. Women take an interest in the care of flowers. Most of them cannot work on account

of their lesions. One female leper patient enjoys teaching the children in the schoolhouse. A special native amusement is dancing and drumming the tum-tum.

Sanitation during the ten years of American occupation has made the Canal Zone a health resort for the American. A spirit of contentment prevails. Tropical diseases are fading away. Yellow fever is unknown.

Primary attacks and reinfection of malaria show a low average. Sanitary and climatic conditions are a factor in the speedy recovery after operations. The American baby thrives like a tropical plant and may be compared with the type of our baby show.

Hospitals are a public health school. From Central and South America and other parts often whole families accompany one sick member to Ancon Hospital to be admitted, no matter at what cost. The result of this investment proved in most cases that the patient has been restored to health and has learned how to retain health.

There is a complete reversal of conditions. Colon and Santo Tomas hospitals at one time were filled to their capacity. Ancon Hospital alone contained 1,800 patients; now there are less than 400.^{*} Where once tuberculosis lingered now stands the governor's mansion. Where the toll of the canal was buried now live the officers of the administration. Villages are submerged. On the notorious swamp, where the deadly malaria mosquito claimed the right to its breeding places the beautiful city of Balboa was built in less than six months.

Those who have toiled to the end will always yearn to return for that daily compensation from Above, which remains unchanged—the gorgeous sunrise and sunset of the tropical sky, giving vivid coloring to the hills, the sea and entangled jungle; the palm trees that stand beside the cottage door, whose fronds the "Southern Cross" shines nightly through.

What has caused this resurrection? No tongue can speak, no pen can describe the strenuous vigilance which was necessary to combat the germ of disease.

We now know that the applied medical sciences, sanitation and continuous research work have destroyed the path of death and promoted health, which is life.

We are indebted to Surgeon-General Gorgas, then chief sanitary officer. Through his effort man was enabled to divide the land and give space to the waters of the canal. Thereby Dr. Gorgas has created the greatest monument in the world's history for the American doctor.

Let the medical profession continue to follow in his footsteps and extend the path of health in the Land of Liberty—Our Country!

203 Chamber of Commerce.

DISCUSSION

DR. OTTO T. BROSIUS: The purpose of my participation in the discussion this evening was to show a few interesting slides of the plasmodium of malaria, but for the benefit of those who have not followed malaria intimately, I will give a hurried review of the life cycle of this organism.

The infected female anopheles in biting man injects with its saliva sporozoites of the parasite which enter the human erythrocytes. In the red cells these parasites ripen at the expense of the cell and finally undergo asexual fission, that is, segmentation into a number of daughter cells or merozoites which are set free by the rupture of the cells. These merozoites in turn enter other cells and undergo ripening, followed by asexual fission. While these asexual cycles keep repeating themselves, special forms of the parasite are set aside which do not undergo fission, but remain unchanged in the circulating blood. Of these special forms two types can be recognized, the macrogamete, the larger, with hyaline protoplasm, and the microgametocyte, the smaller, with granular protoplasm. The latter organism in the mosquito's stomach throws out flagellae called microgametes which are capable of fertilizing the macrogametes. As a result of this union a motile zygote is produced which makes its way beneath the epithelial layer of the stomach where the sporoblasts first appear. These give rise to spores and each spore breaks into many filliform sporozoites which in turn are set free into the celomic cavity of the mosquito by the rupture of the oocyst and travel forward into the salivary glands ready to be injected into another human host.

The microscopic differentiation of the three varieties of malaria deserves consideration.

1. The fact that the parasite swells the red blood corpuscle in tertian malaria, and in the estivo-autumnal form either shrinks the corpuscle or leaves its size unaltered is quite a reliable feature, subject, of course, to some exceptions.

2. In estivo-autumnal malaria we often find two, three and even four parasites on a single red blood corpuscle. In tertian malaria it is rare to find more than one.

3. It is common in estivo-autumnal malaria to see rings with nuclei at two sides of the circle, while in the tertian form the ring usually shows but one nucleus.

4. The ring is usually more perfectly circular in the estivo-autumnal form than in the tertian.

5. The tertian parasite is larger than the parasite of the estivo-autumnal form, and usually fills the entire erythrocyte.

6. Where gametes are present the differentiation between tertian and estivo-autumnal forms is usually easier, because the gametes of estivo-autumnal malaria are usually crescents with occasional ovoids which are characteristic. And here we might observe that quartan malaria is diagnosed almost solely in the tropics by the peculiar greenish brassy pigment present usually in its gametes.

7. Sporulation segments are more numerous in tertian malaria than in either the estivo-autumnal or quartan forms.

8. In fresh blood the tertian parasite is more motile than the estivo autumnal.

The presence of crescents or other gametes is, of course, the indication of a chronic process, and in estivo-autumnal malaria their persistence is remarkable despite all efforts to remove them. We have many times tried large doses of quinin over long periods. I have several times tried repeated doses of neosalvarsan without effect. It is probable that

such cases are subject to acute exacerbations at any lowering of their resistance.

In the hospitals of Panama and the Canal Zone we seldom examine fresh blood specimens. All blood smears are stained either by Wright's or by Hasting's method. Malarial pigment without parasites is not an unusual finding and some men have noted a relative increase of large mononuclear leukocytes in these conditions.

Dr. Clark, the pathologist of Ancon Hospital, has recently done some very interesting work on malarial findings in placentae in which he has demonstrated that malarial parasites have been found in the placentae from many women whose peripheral blood was negative for malaria at the time of delivery. This is of great consequence, for it indicates the value of making placental smears for malarial examination in the tropics in cases where the peripheral blood was negative and where both malaria and puerperal fever are suspected. Dr. Clark also demonstrated that the plasmodium, like the erythrocyte, does not pass through the placenta from mother to child.

The slides which I have brought with me are from an unusually severe case of estivo-autumnal malaria. The individual was a middle-aged Chinaman who was brought into the hospital in a comatose condition. This unusually severe infection was immediately detected and he was treated with large doses of quinin given deeply into the muscle. He died the following evening and the necropsy showed the liver, spleen, bone marrow and brain to be loaded with parasites. It is probable that the quinin hastens death in these very severe cases by destruction of too many parasites at one time with resultant liberation of too many toxins. In the slides which I have here there are none but ring forms present.

ADDRESS OF THE RETIRING PRESIDENT OF ST. LOUIS MEDICAL SOCIETY*

R. EMMET KANE, M.D.
ST. LOUIS

A year ago in your presence I accepted the highest honor in the gift of the organized medical profession of St. Louis. Tonight we have gathered to see another and a worthier president take up the burdens of office, and to wish for him such success that the immortal spirit of his illustrious father who preceded him in this chair in 1878, may look down on his work with pride and satisfaction.

It is only right that in quitting the office with which you have honored me, I should give an accounting of my stewardship in order that your incoming officers may profit by my errors, and draw encouragement from the successes which my co-laborers achieved for the administration.

In addressing you a year ago, certain personal pledges were made to you which to the best of my ability I have endeavored to carry out. You were promised that with your cooperation I would so administer the affairs of my office that peace and harmony would prevail throughout the society. You were promised that, although elected by a majority after a spirited contest, I

would scrupulously administer equal justice to the minority, looking on the safeguarding of their rights as a duty, binding in conscience on me.

I will not, I hope, be regarded as an ebullition of vanity when I say the present condition of your society is the answer I would make you as to whether that pledge has been conscientiously lived up to.

It rarely falls to the lot of any man who has been active in the performance of his duty to retire from office without having made personal enemies, because of the wounded pride or thwarted ambitions of some of those with whom his office has brought him in contact. For these men I hold no enmity, I pity them because of their unhappiness.

Tonight, however, I desire to give public expression to the gratitude I feel toward all those with whom I have clashed during the year on matters of policy and opinion, and who were great-minded enough to surrender their views without fearing that they were forsaking their principles on the altar of the common good.

Your council has made the executive work a real pleasure. On no occasion has the council as a whole, nor any councilor as an individual set up an opposition to any measure that was to advance the interests of the organization. Faithful in attendance, patient during meetings which lasted frequently beyond midnight, they have given freely and willingly of their time, comfort and convenience and on every motion, by their unanimous voice, they have supported every project of the administration.

Your secretary has told you that the attendance at meetings, averaging one hundred and seventy-two, has been the largest in the history of the society. This is due solely to your program committee which has carried out faithfully the pledge made at the beginning of the year, that contributions would be solicited rather from our own members than from outsiders. During the year it has been our good fortune to entertain many distinguished guests from other cities but this has not been done to the exclusion of our own members, and in no instance has the program committee received or requested any of the society's funds for carrying on its work.

We are prone to regard those gifts easily obtained as of small value, hence there is a tendency to show less appreciation of a truly scientific contribution from a member than it is to one of inferior value from a visitor from afar. Cities are rated in public esteem not alone by their market reports, the number of those living within their borders, or the value of their holding which may be expressed in dollars and cents, but more especially by the contributions they make to the advancement of civilization. The most valuable asset a community possesses

* Read at the Annual Meeting, Jan. 8, 1916.

is its men of genius and intellectual attainment. Demosthenes alone would have secured the position of Athens in the world's history even though Greece had no other claim on the world's gratitude; Caesar would have made Rome immortal even though the seas had covered her seven hills at his death; Louis Pasteur would have written the name of France across the blue dome of the undying skies had his country no other claim on greatness, and had the arms of Napoleon never sent their thunder down the avenue of eternity. We owe it to our own city as a matter of civic pride to build up the talents of its citizens and to proclaim their worth to the world. It is a duty we owe to suffering humanity to put down petty jealousy and to help forward any man and every movement that will in a legitimate way advertise St. Louis and make it a healthier and brighter place to live in.

On the other hand, let me warn you against the unworthy member who would use the privilege of the recognition you give him to further his purely selfish ambition in an unwarranted manner. A great responsibility in this direction rests with your program committee and the corresponding service they perform for you deserves your deep gratitude and unreserved support.

I called your attention to the fact that you should guard well your roll of membership. While this organization should refuse admittance to no worthy applicant, the badge of respectability which its membership confers should be placed only over hearts which know no law save that of true service to God and to His creatures. Your membership committee has been faithful to the trust you placed in it. It has weighed well the qualifications of every applicant referred to it and strict justice has regulated all of its actions.

It has been our melancholy duty, as your ethics committee and committee of censors have reported, to expel two members from our ranks. To be cast out of this organization as an unworthy member of the profession and as one unfit to associate with his fellow workers is indeed the most awful indictment that could be returned against a doctor of medicine. No organization can be blamed for the corruption of its individual members unless with knowledge of that corruption it lacks the courage to sever their connection with it. Fortunately we have had a committee on ethics and a committee of censors composed of men of courage, personal integrity and unswerving loyalty to our professed ideals, and they did not hesitate to proclaim to the world that the St. Louis Medical Society has no room in its ranks for the feesplitter or the abortionist. I urge future committees to follow the precedent they established this year to the end that He who said,

"Thou shalt not kill," and "Thou shalt not steal" may bless our work and extend the arm of His protection about our calling.

No nation may take its proper place among the nations of the world, and no man among his fellowmen unless they have established their reputation for promptly meeting every obligation they have assumed. As with nations and individuals so also with organizations. I am happy to state that the St. Louis Medical Society has today an unquestioned credit in the business world made possible by the strictest adherence to modern business principles and methods in its dealing with others. During the year an entirely new method of keeping our accounts was established and your accountants, Price, Waterhouse & Co. will tell you that as a result, the business of the year has been conducted at a profit of \$2,683.44. This excess of income over expenditure was made possible by strict economy in conducting the affairs of the society. All work done and supplies purchased have been let after competitive bidding and no expenditure has been made without an order from the council. As a consequence of our new business system all of your past debts have been canceled. Your *Bulletin*, heretofore a revenue producer through its advertising pages, has been conducted this year free of advertising and, therefore, at a clear expense to the society. The assumption of this expense was justified by sending out a *Bulletin* in keeping with the dignity and the purposes of the organization. The salaries of your employees have been increased and the interest they have manifested and the character of the work they are turning out justifies additional increases. A new system of lighting has been established in your auditorium. Your auditorium and library building have been thoroughly cleaned, repapered and renovated and are being kept clean by a very competent caretaker. All of your current bills have been paid and although the custom heretofore established of sending out bills for the next year on December 1 has not been followed, a balance remains in your treasury.

I would recommend a continuation of this policy in the belief that it will mean the establishment of a sinking fund that will protect us against any possible period of great financial depression or calamity.

Through the benevolence of the mother of our lamented member, Hugo W. Bartscher, we have a fund available for a future building amounting to \$43,273.05. The safeguarding of this fund is an obligation of honor; the principal should never be touched but should be added to by future funds as they accumulate to the end that a suitable fireproof building may be provided for our library.

Your library grows daily in value. We have secured the services of a most competent

librarian who is installing a system of cataloging and indexing that will serve the convenience of the busiest of our members. I urge certain changes in our laws that will democratize our library through the appointment of an advisory library committee representing all the larger divisions of medicine and surgery.

In contemplating causes which may bring about discord in our ranks my year has taught me certain things which I hope you will pardon a passing servant for bringing to your attention.

All cliques or combinations of members, no matter how plausible these combinations may seem, but which have as their real object the control of the policy or the direction of the affairs of this society or the administration of its laws, are detrimental to its peace, its harmony and the ultimate fulfilment of its mission. The demagogue lives on suspicion and he creates his food in the minds of uninformed or unthinking people. The St. Louis Medical Society is no place for the tricks of the selfish politician nor for the medical spoilsman to practice his art of intrigue and deception. Be slow, therefore, to believe the evil report he spreads about your fellow workers, and the unworthy motives he assigns for the various activities of your elected leaders.

Another cause for discontent is the apparent defiance of our principles by a class of men whose high standing in the profession and whose personal reputations for honesty of action and purpose cannot be challenged. I refer to those delivering public lectures on medical topics, excepting under the auspices of organized medicine. It is impossible to punish the unworthy member for using the methods of a charlatan in his campaign for publicity unless the better element in the profession live up strictly both to the spirit and the letter of our law. I would beg these men, for they are reasonable men, not to needlessly increase the heavy burden organized medicine is carrying in waging war against the quack, the charlatan and the purely commercial doctor. The bad example they set makes success in this war well nigh impossible.

Your society is attempting to separate the good from the bad contract in medicine, and to secure the cooperation of the hospitals, clinics and medical schools in the community in a plan that will protect the poor but competent and worthy doctor from the crushing influence of a battle against large endowment and the power of accumulated wealth.

We are engaged in constructive and not destructive work, and my year of labor with you sends me into the world not pessimistic, not disillusioned, but more enthusiastic than I was before, for I believe that each member of our society stands ready to sacrifice himself for the common good. I believe that each member

stands ready to support our laws and perpetuate our ideals.

Those ideals were created by master minds of the mighty past. We will not prove false to them nor to their memory.

Tonight we honor one of the mighty men of the past. We honor a doctor of the old school, who practiced medicine with his heart as well as with his skilful hands and trained mind. We honor him through his son.

Dr. Boisliniere, in turning over to you this gavel, emblematic of your authority, may I not say to you that I hope you will have about you throughout your year men as true, as loyal and helpful as I have had? May the members forgive your shortgivings as readily as they forgave mine, and may they magnify your virtues and successes with the charity they have taught me to know so well, and may that illustrious man who gave you to the world look down on you when the lamp of your administration is being dimmed and say, "I am well pleased."

Humboldt Building.

SYPHILIS OF THE CIRCULATORY SYSTEM *

O. O. SMITH, M.D.
ST. LOUIS

I believe there is nothing which is more often overlooked by doctors than late syphilis and nothing which presents a more vivid picture to us when we are on the alert. Doctors in large cities are perhaps more on the alert for these cases than are the doctors of the small cities and rural districts because there is a far greater percentage of syphilis in the large cities than in the rural districts.

I heard one of my professors in school tell the class one day that he made his reputation in a country town by giving an old rheumatic potassium iodid which cured the case absolutely. I am unable to say if this was or was not a luetic case, but probably lues was a factor since KI played such an important rôle in the cure of the rheumatism.

In the St. Louis Frisco Hospital we have discovered many cases of late syphilis coming from the rural districts. We must exercise great care in obtaining the histories of these cases. The minute we look at the patient we may say to ourselves, "this is a case of late syphilis," but we must proceed with caution, first obtaining a careful family history, then personal history, being careful to ask from what illness they have suffered from early childhood to present date leaving aside for the time venereal diseases. By

* Read at the Fourteenth Annual Meeting Frisco System Medical Association, Springfield, May 24-25, 1915.

this means we are able to eliminate some things which might present such a picture, and at the same time we are gaining the patient's confidence. Most people look on lues as a disease which can be contracted in only one way, that is by sexual intercourse, and that it is very disgraceful to have had it, but we know that there are numerous ways to contract the disease and that it is often contracted in a most innocent manner. Those infected with syphilis are simply unfortunate and should have our sympathy and not our censure.

Patients with syphilis of the cardiovascular system, which is usually late syphilis, generally present a picture such as this: They are usually somewhat pale, emaciated and look much older than their age. The superficial vessels over the entire body are prominent, tortuous and markedly sclerotic, with blood-pressure plus. There is a peculiar indescribable expression of and about the eyes which no doubt is caused by the effect on the central nervous system. Since this paper deals with the cardio-vascular system, we must be very careful not to touch on luetic neuroses. Permit me to say, however, that we have discovered numerous cases of cerebro-spinal lues in the hospital in the last few years who were admitted for something independent of this affliction.

Since we are practicing "safety first," I think it would be well to examine the reflexes and station of each applicant for position for which an examination is required. It is too simple a procedure to be overlooked.

The following are a few of the cases which have come under my observation in the past year which will show how easily it is to become infected with syphilis, from one who is absolutely ignorant of the fact that he has or has had syphilis.

CASE 1.—A man entered the dispensary saying he had some sores in his mouth, the same kind he had when a boy of 12 years of age which his mother had cured by the use of sassafras tea and golden seal. He said he had been trying the same medicines for two months but that the mouth and throat were getting worse. I took a careful look and asked the man when he had the chancre on his penis; he said one year ago but he was sure that had nothing to do with his present trouble as it was well in three weeks. A physician had seen this case and prescribed glycothymolin as mouth wash. There were mucous patches all over the mucous membrane of mouth and pharynx.

CASE 2.—A man entered dispensary saying he had fever blister on lip which he always had when he had fever, but he did not think he had any fever this time and the thing had been there for ten days or two weeks and was not disappearing. Examination completed and tentative diagnosis of chancre made and patient asked to return in a week. He did and very little change noted. He came again in about ten days when several small mucous patches on the pharyngeal wall were observed and confirmed the diagnosis.

CASE 3.—A patient who thought he was salivated because he had taken one-half grain calomel and soda tablet ten days before he came to the dispensary with a sore mouth. Examination revealed numerous mucous patches. This man strongly denied a chancre and there was absolutely no evidence that he had had one; that is, there was no scar, discoloration or adenitis.

CASE 4.—Case was seen in the clinic by Dr. Wood of our staff. Patient had active secondary lesions on the hands. Patient was a bread wrapper in one of the large bakeries of St. Louis and was very much offended when not allowed to return to work with the active lesions on his hands. It is impossible to estimate how many were infected by these four cases.

The following are some of the cases which we have treated in the past one and one half years, with brief remarks concerning each case:

CASE 5.—Man, aged 45, with varicosity of both legs of several years' standing and ulcer about size of dime $1\frac{1}{2}$ inches above internal malleolus; vein and ulcer supported by bandage and patient given antiluetic treatment, $\frac{1}{20}$ gr. HgCl_2 and 30 m.KI. in essence peppermint three times a day. In two weeks ulcer well and patient discharged. One month later patient returned with about same condition. This time no bandage applied, but given antiluetic treatment after obtaining blood for Wassermann test which gave positive reaction. In two weeks ulcer again healed without bandage support. Denied luetic infection.

CASE 6.—Man, aged 50, marked arteriosclerosis, complaining of headache for past year. Blood pressure 140; denied lues absolutely and no evidence of scar, adenitis, etc. Wassermann + +, urine negative. Headaches disappeared under mixed treatment and mercury salicyl injections, one-half grain once a week.

CASE 7.—A case of luetic gastritis from same office as two previous cases. Absolute denial of luetic infection, but plus Wassermann. Cleared up under antiluetic treatment.

Here are three cases of late lues from the same office with three absolute denials of lues and three plus Wassermans, and I believe that each was absolutely ignorant of the knowledge of a luetic infection.

CASE 8.—Man, aged 47; apoplexy; complete right hemiplegia; untreated lues twelve years ago. Scar on penis and inguinal adenitis, marked albuminuria, casts. Improved rapidly under mixed treatment, 40 to 60 m. KI. three times a day. Discharged in six weeks walking without aid of cane, slightly spastic on right; urine free from albumin.

CASE 9.—Man, aged 42, contracted lues fifteen years ago. Right hemiplegia complete. Improved rapidly under antiluetic treatment (40 to 80 KI three times a day). Discharged in six weeks, walking without aid of any kind.

CASE 10.—Man, aged 50, right hemiplegia, not complete, markedly sclerotic, blood pressure 170; denied lues. Wassermann negative. Cleared up rapidly under antiluetic treatment (40 to 60 KI three times a day). Discharged from hospital in four weeks; returned to work in another week.

CASE 11.—Man, aged 48: Complete right hemiplegia; doubtful luetic infection, probably a urethral chancre. Negative Wassermann; blood pressure 200.

Albumin and casts. Cleared up gradually and slowly under antiluetic treatment. Improvement retarded by dental abscess and grippal infection while in hospital. Discharged in greatly improved condition in three months. Walked nearly normal without aid. A peculiar incident of these hemiplegias was that they were all in the hospital at one time and all right-sided.

CASE 12.—Man, aged 50; popliteal aneurysm; denied luetic infection, but gave double positive Wassermann. Amputation done at joint of lower and middle third of thigh. Wound healed rather slowly, but was stimulated by brisk antiluetic treatment. Patient first claimed injury but later was convinced differently.

CASE 13.—Man, aged 20, family history negative; personal history negative, except for slight childhood diseases. Denied all venereal diseases. No rheumatic history. Came to hospital on account of cough, dyspnea and slight hoarseness. Examination revealed aortic and mitral regurgitations with endarteritis of great vessels of neck. Urine and blood picture negative. Wassermann double positive. Patient given iodids in ascending doses with Hg rubs and strychnia. Improvement quickly noted and after three months discharged in vastly improved condition.

CASE 14.—Male, aged 32; family history negative; private history questionable; luetic infection eleven years ago. Came to hospital on account of marked dyspnea and palpitation of heart. Examination revealed marked dilatation of heart with mitral and aortic regurgitation; endarteritis of the cervical vessels. Wassermann double positive. Blood pressure 120. Responded quickly to rest. KI and digitalis with Hg rubs.

CASE 15.—Male, aged 38; entered hospital complaining of asthma. Paternal uncle, aged 65, has asthma, otherwise family history negative. Habits fair; trainman; measles, mumps, pertussis and typhoid in childhood. Severe luetic infection twelve years ago with very limited treatment. About five years ago began having asthma, the condition gradually growing worse. Came to hospital having fearful attacks of asthma. Was unable to lie down at all, and had to be given hypodermics of morphin, atropin and adrenalin for relief. Examination showed marked emphysema, myocarditis, endocarditis, pericarditis, cardiac effusion, also mitral regurgitation and stenosis. Blood pressure 120 to 130 at different times. Arteries all sclerotic and tortuous for one his age. Wassermann negative. Urine negative. Sputum negative. Apex eighth interspace nipple line, diffuse, with pericardial effusion. Slight ascites, no edema of feet and legs. Responded beautifully to mixed treatment, infusion digitalis and Hg rubs. Has no paroxysms now and lies down for short intervals with comfort.

A few suggestions: (1) Do not eliminate lues in a case even though the patient denies absolutely a luetic infection.

(2) Do not lay too much stress on a negative Wassermann in late syphilis.

(3) Get a detailed past and family history.

(4) Make a careful physical examination, not only at site of complaint, but of entire body, and in case of circulatory lesions, especially under 45, consider lues seriously, and if in doubt give antiluetic treatment; it can do no harm and perhaps lots of good.

Frisco Hospital.

TWO CASES OF INFLUENZAL MENINGITIS

ELLSWORTH E. MOODY, M.D.
JOPLIN, MO.

Meningitis caused by the influenza bacillus was first suggested by Pfuhl in 1892.¹ Six years later, Fraenkel² demonstrated absolutely that meningitis could be caused by this particular organism and reported two cases in young children which terminated fatally. Wollstein³ working in connection with Flexner first produced the disease experimentally in monkeys. She also succeeded in immunizing monkeys against the fatal dose of virulent influenza bacilli by the use of an immune goat serum. In these experiments, animals which received the immune serum recovered while those receiving the same dosage of the live bacilli but not the serum, died. She later reported three cases of influenzal meningitis in small children, all treated with the serum but none of them recovered.

The two cases here reported present nothing new in symptomatology except a very rapid course, each probably lasting less than 48 hours and both following probable acute general influenzal infections of less than a week's standing.

CASE 1.—Baby E., age, 11 months. First seen Dec. 10, 1915. History as follows: For three or four days the child had had a mild cold with running nose, slight cough but without apparent elevation of temperature. For these few days the stools had been rather more loose than normal but there was nothing abnormal in the color or consistency. On the 9th the child had been constipated and an ounce of oleum ricini was given by the parents. During this night the child was very restless and the temperature apparently rose suddenly about midnight. At this time there was some vomiting which was not projectile in character. Between midnight and 6 a. m. the child gave frequent short sharp cries and at 6 o'clock had a slight convulsion lasting about two minutes and involving the entire body. When seen at 6:40 the child was in opisthotonus position, the respirations were rapid, the nostrils dilated, pupils equal, regular and with normal reaction to light. Moist râles were present over the bases of both lungs, the abdominal muscles were somewhat tense, the spleen and liver could not be palpated, the thighs were flexed on the trunk but there was no Kernig, Oppenheim or Babinski. Temperature 100.8, pulse 120. Between 6 and 10 a. m., when the child was seen again, there were several slight convulsions none of which lasted more than two minutes, all of equal intensity and involving the entire body. These convulsions were at intervals of about fifteen minutes. At 10 a. m. the child was unconscious, the pupils still responded rather readily to light, there was a positive Kernig and Babinski, with diminution of the knee jerk and Achilles reflexes. Spinal puncture was done and 30 c.c. of cloudy fluid withdrawn under pressure. The Noguchi test showed increased globulin. There was reduction of Fehling's solution and the cell count was 256, of which 230 were polymorphonuclears. In the sediment collected after cen-

1. Pfuhl: Berl. klin. Wehnschr., 1892, xxix, 979; Deutsch. med. Wehnschr., 1896, xxii, 82.

2. Fraenkel: Ztschr. f. Hyg., xxvii, 315.

3. Wollstein, Am. Jour. Dis. Child., 1911, i, 42; Ely: Jour. Iowa State Med. Soc., October, 1915.

trifugation were great numbers of irregularly lengthened, thin bacilli which did not take the methylene blue stain very well. They were negative to Gram's stain. Serum was not immediately available and morphia was given to control the convulsions. The child died at 8 p. m., twenty hours after the apparent onset.

CASE 2.—Baby S., age, 8 months. First seen Feb. 11, 1916. This child had been apparently quite well until the morning of the first visit although another child in the same family had just had an acute attack which the family had considered of insufficient consequence to call a doctor. There had been no stool for twenty-four hours although the babe was quite regular as a rule. The temperature seemed to go up rather suddenly about 8 a. m., and the child had refused to nurse. At noon there was vomiting of clear fluid which was not projectile in character. When seen at 2:30 p. m., the temperature was 101, the pulse 110, there were several petechial spots over the chest and abdomen and redness of the throat. There was the slightest rigidity of the neck and spinal puncture was suggested but permission to do so refused. The child was not seen again till the morning of the 12th. Temperature 100, pulse 130. The child had been forced to swallow water but had refused to make any attempt to nurse. There was marked opisthotonus at this time, the pupils were dilated and sluggish, the thighs acutely flexed on the abdomen. There was no Babinski or Oppenheim and the knee jerk was absent. White blood count was 12,300. Lumbar puncture was now done and 30 c.c. of fluid removed under increased pressure. The fluid was cloudy, the Noguchi positive, Fehlings reduced slightly, cell count 490, 90 per cent. being of the polymorphonuclear type. The same arrangement of bacilli was found as in Case 1, and after twenty-four hours there was no growth on Loeffler's serum media. No attempt was made to grow the organism on other medium. Between 11 a. m. and 1:30 p. m., when the child died, there were four rather severe convulsions involving the right side of the body rather more than the left and lasting about sixty seconds each.

CASE HISTORY OF BEGINNING TABES*

ERNEST G. MARK, M.D.

AND

HARVEY E. McCARTHY, M.D.

KANSAS CITY, MO.

We desire to present this case not so much for its rarity in occurrence but rather for its rareness in diagnosis at this stage.

This is a case of beginning tabes in which a greater part of the nervous phenomena are not yet present, but in which the cystoscopic examination reveals the diagnosis beyond a question of a doubt.

Spinal syphilis, as we all know, in its attacks on the nerve centers in the posterior roots of the cord, gives many physical signs, among which the first to show are bladder symptoms in a more or less degree, caused by the incoordination of the sphincter and the detrusor muscle. These symptoms, roughly speaking, consist of failure in coordination which may cause anything from a slowness in ability to urinate with a slight residuum, to an entire retention.

Mr. R. P. S., referred by Dr. Gray, presented at our office July 12, 1915. Aged 37, weight 135 pounds, normally. Single. Carpenter by trade.

Family history.—Father died of heart trouble; mother died of kidney trouble (nephritis). One sister and one brother alive and well; no sisters or brothers

dead; no family history immediate or obscure of tuberculosis, tumors or nervous troubles.

Personal history.—Drinks some alcohol but in slight amounts and intermittent. Smokes and chews tobacco but moderately. Held intercourse but rarely for one year before applying to office, on account of his condition.

Previous history.—Childhood diseases: Scarlet fever, measles and mumps.

Operations.—Hemorrhoids one year ago.

Veneral.—Gives history of multiple gonorrheal infections, as he says, "ten or twelve cases." These cannot be classified new from recurrent. Epididymitis two or three times. About twelve years ago, a week or two weeks after intercourse, he found multiple sores on the penis. These were cured under local treatment.

About one year ago he went to Hot Springs for treatment of chronic urethritis, and was examined by a doctor there, who treated him for urethritis, but assured him that he did not have lues and advised him against treatment.

Present history.—Three months ago, after having intercourse, he noticed on the day following, a mucoid discharge which in a few days became purulent.

On presenting.—Principal symptoms: Discharge in morning. Pain, none. Discharge at meatus: Mucoid; under microscope showed pus, staphylococci, streptococci and micrococci, but no gonococci. Character of urination: Relatively free but slight breaking of stream. First, second and third urines all cloudy. Genitals: O. K. Small meatus. Prostate: Enlarged. Seminal vesicles: Palpable on right. Expressed discharge from prostate and vesicles under microscope shows gonococci, pus, etc. Granular posterior urethra; stricture in anterior urethra.

Superficial physical findings.—Mouth, throat and nose O. K. No glandular enlargements. No skin lesions.

Case presenting at that time one of chronic prostatitis, vesiculitis and posterior urethritis with anterior stricture, size 20 F. caliber.

In the course of treatment we found on several occasions on introducing a catheter for posterior instillation, residuum varying from 2 to 10 or 12 c.c., and still later following a urethroscopy, he complained of a transitory retention or a slowness in starting urination which lasted three days.

On cystoscopy we found postuterebral or posttrigonal fine trabeculations which were first described by Nitze and afterwards by Schmidt of Chicago as appearing early and only in tabes.

Reflexes on examination as follows: Slightly retarded and abdominal, patellar, Babinski and Chaddock present right patellar. Achilles absent. Rombergism absent. Eye slightly retarded but present.

Laboratory findings.—Wassermann blood, 4 plus; spinal, 4 plus; Nonnet, positive; Goldsohl or Lange, positive in three, four and five tubes; cell count, 60.

Spinal fluid came out under great pressure but actual pressure was not taken at the time. Patient gives no history of rheumatic or shooting pains. No gastric crisis. Can see as well as ever and has had no trouble in getting around at night, climbing stairs in the dark, etc. Being a carpenter he works a great amount of his time some distance from the ground, but has no trouble with dizzy attacks, or in other words, he does not present any of the subjective phenomena we look for in the tabetic.

As stated in the beginning, this case report is not given for its rarity, but if it will cause the physician to look a little more closely into his so-called idiopathic residuo or retentions, without apparent cause it will pave the way to treatment of tabes in its very beginning stages before destruction has gone far enough to produce the symptoms we all so readily recognize and will greatly enhance the symptomless recovery of these patients.

626 Lathrop Building.

* Read before the Jackson County Medical Society, Nov. 9, 1915.



J. FRANKLIN WELCH, M.D.
President Missouri State Medical Association, 1916-1917

THE JOURNAL

OF THE

Missouri State Medical Association

Address all Communications to 3517 Pine Street, St. Louis, Mo.

JULY, 1916

EDITORIALS**RETAINING FEE FOR THE PHYSICIAN**

The logical result of the Association's campaign of education is that the more intelligent laymen are beginning to ask the doctors at what rate the latter will act as their family advisers in the matter of health and hygiene. The question brings several principles to the front for discussion and our members should formulate their opinions in order to be ready to meet the issue.

The first matter is that of contract practice. This has carried with it a stigma—unjustly perhaps, but nevertheless one that would impress a sensitive man. The stigma is probably due to the element of competitive bidding indulged in by many doctors when seeking city and county appointments. Another cause for the feeling against contract practice is the fear that the doctor thereby loses his independence and freedom. On the other hand, the proposition is essentially analogous to that of the lawyer's retaining fee; and the custom of having an annual retaining fee has proven quite satisfactory to our barristers. The lawyers who have this custom do not seem to suffer from the arrangement, either morally or socially. Nor should it prove unsatisfactory to the doctor.

The real crux probably lies herein that the essential points are, first, good service; and, secondly, fair recompense. Contract service that furnishes the highest grade of service cannot be dishonorable. And contracts calling for fair compensation should not lead to subservience or even a feeling of bondage.

The search for technical advice as to how to preserve health is an evidence of wisdom that we should encourage. Too long we have been content to serve only in the effort to restore health and therefore had to compete with Christian Scientist, osteopath, chiropractor, and what not. But when it comes to a matter of scientific hygiene we have the field to ourselves. We alone are trained to recognize the physiologic in making an inventory of our patient's possibilities; we alone are versed in the life history of the different types of disease. It would seem therefore that the scientific physician would welcome the opportunity to become a family adviser even on the basis of an annual retaining fee.

The Chinese, it is said, stopped the pay of their family physicians when sickness occurred.

It may be well for us to have an understanding on this point at the very outset. Are long illnesses or operations to be included or excluded? Our suggestion is that they be excluded and that the annual fee cover only consultations on matters of hygiene and the care of the patients during ephemeral illnesses.

J. FRANKLIN WELCH, M.D.

Dr. J. Franklin Welch, our President for the year 1916-1917, is a native Missourian, born in Monroe County, Nov. 18, 1856. He began his medical studies under the old preceptor method and "read medicine" with the late Dr. A. E. Gore at Paris, Mo., entering the Missouri Medical College in 1878, and was graduated *cum laude* in 1880. He began practice in Salisbury the same year, but interrupted his career in that city by removing to Monroe County, where he practiced for about four years. He then returned to Salisbury and has continued a resident of that city. In 1881 he married Miss Lucy V. McNutt of Paris, Mo.

Dr. Welch has been an active, unselfish worker in the organization, giving freely of his time and substance to advance the standard of medicine in his own community and throughout the state. He has earned the respect and esteem of his confrères, who have honored him with the presidency of his local societies, both in Monroe County and in Chariton County, and is a former president of the North Missouri Medical Society. He is a Fellow of the American Medical Association, and in 1898 he was elected Treasurer of the Missouri State Medical Association, which office he has filled for the past eighteen years with the highest degree of satisfaction and business-like accuracy. That he is a gentleman possessed of the instinctive attributes that impel his confrères to confer on him the honors they have to bestow was beautifully demonstrated in the House of Delegates when his name was proposed for the highest distinction within our gift, as no other member permitted himself to be advanced as a candidate for the presidency. Under Dr. Welch's guidance the Association will prosper and progress, for he will undoubtedly have the sympathetic support and unwavering cooperation of every member during his year of leadership of the organization.

**THE DETROIT SESSION OF THE
AMERICAN MEDICAL ASSO-
CIATION**

The Sixty-Seventh Annual Session of the American Medical Association, held at Detroit, June 12-16, fulfilled every expectation of the members in its social, business and scientific aspects. Notwithstanding that Detroit is prob-

ably the fastest growing city in the country today and has erected several hotels of large capacity during the past five years, the accommodations were taxed by the large number of Fellows and guests who attended the meeting.

The House of Delegates met promptly on Monday morning, June 12, and from that time until Thursday afternoon the delegates were constantly busy with the affairs of the Association. The retiring President, Dr. Albert Vander Veer, of New York, emphasized the importance of the profession being prepared to cooperate with the U. S. Army in case of necessity and called attention to the inadequate preparations during the Civil War and at the beginning of the Spanish-American War.

The Reference Committees of the House of Delegates, of which there are eight, were appointed by President Vander Veer, and Missouri was honored by the appointment of one of its delegates as Chairman of the Reference Committee on Legislation and Political Action.

The incoming President, Rupert Blue, Surgeon General of the U. S. Public Health Service, was installed at the general session on Tuesday morning and took charge of the House of Delegates on Tuesday afternoon. At this session the Reference Committees reported and Dr. Goodwin read the report of the Reference Committee on Legislation and Political Action. This committee indorsed the work of the Council on Health and Public Instruction and directed especial attention to the splendid report of the sub-committee on Social Insurance. This is an exhaustive statistical report on the status of this new phase of social economics that will affect the practice of medicine in this country and our members should study the report so as to be ready for its operation when adopted in the various states.* The Reference Committee recommended that each constituent state association appoint a committee on social insurance to cooperate with the American Medical Association committee and the recommendation was adopted by the House of Delegates. The committee also introduced a resolution, which was adopted, appealing to Congress to pass pending legislation increasing the powers and maintaining the present high efficiency of the U. S. Public Health Service.

By an amendment to the by-laws adopted at this session the scientific sections in future will begin on Wednesday morning instead of Tuesday afternoon as formerly. The sections will continue in session during Wednesday, Thursday and Friday. The opening exercises of the meeting will be held on Tuesday evening and the House of Delegates will meet on Monday and Tuesday, thus giving two full days for its work preceding the convening of the scientific sections. This arrangement will permit delegates to attend some of the scientific sessions, a privilege that has been denied them in the past. The

proctologists and gastro-enterologists were recognized by the House of Delegates creating a section to discuss subjects pertaining to these two specialties. The section on hospitals was discontinued.

The Missouri delegates having been instructed to offer an amendment to the by-laws on Associate Fellowship, the following was filed with the chairman of the Reference Committee on Constitution and By-laws:

No person can become an Associate Fellow who can be a Fellow of the American Medical Association in the regular way.

The Reference Committee "considered the question at considerable length and decided to present it to the House of Delegates." In a subsequent report the Committee recommended that the subject of Associate Fellowship be referred to the Judicial Council for report next year. This was adopted.

An innovation was accomplished when the by-laws were amended so as to elect a Speaker for the House of Delegates, technically termed Chairman, and also a Vice-Chairman. This arrangement will relieve the president of duties which have been more or less irksome to that official and permit him to take a prominent part in other departments of the Association's work. Dr. Hubert Work, of Pueblo, Colo., was elected Chairman of the House and Dr. Dwight H. Murray, of Syracuse, New York, was elected Vice-Chairman.

Another amendment to the by-laws gives the Judicial Council appellate jurisdiction in matters of law and procedure but not in matters of fact; and a further amendment makes a trustee ineligible for any other elective office the term of which runs concurrently with the term for which the trustee was elected. This prevents a trustee from being nominated for president excepting in the last year of his term as trustee.

The election of president at first promised to be a contest between four aspirants, but on the day of election it had narrowed down to two names, Dr. Jabez N. Jackson, of Kansas City, and Dr. Charles H. Mayo, of Rochester, Dr. Mayo being elected. By reason of the fact that Missouri had a candidate for president no effort was made by our delegates to hold Missouri's representation on the Board of Trustees, which office was held by the late Dr. Frank J. Lutz. This vacancy was filled by the election of Dr. E. J. McKnight of Hartford, Conn. The other trustees elected are Dr. A. R. Mitchell, Lincoln, Neb., in the place of Dr. W. W. Grant, of Denver, Colo., and Dr. Oscar Dowling, of Shreveport, La., reelected. Dr. Lewellys F. Barker, of Baltimore, was elected first vice-president. The next meeting will be held in New York City.

All the Missouri delegates were on hand promptly at the opening session of the House and each one faithfully attended all the sessions. The registration of Fellows from Missouri totaled 139.

* The complete report is published in *The Journal of the A. M. A.* for June 17, page 1951.

CANDIDATES AND POLITICAL CONTROL OF STATE INSTITUTIONS

At the Excelsior Springs meeting of the Association a resolution was adopted to request candidates for Governor and Lieutenant-Governor to declare their attitude toward the removal of eleemosynary institutions from political control. The Secretary of the State Association was instructed to send a copy of the resolution to each candidate and publish both the resolution and the replies in *THE JOURNAL*. They are published in this issue.*

The House of Delegates of the 1916 session has spoken more emphatically on this subject than at any other meeting and the entire membership is aroused. There is no doubt that a determined effort this year will be made to nominate candidates who will keep their pledges in this respect. Not only the members of the medical profession, but the public in general is wearied of the continued brawls and fights that politicians have injected into the state hospitals and other state institutions in their attempt to perpetuate themselves or their henchmen in office. The people have come to understand that the management of state institutions must be conducted on a business basis and the inmates given scientific care and treatment, so that the welfare of the state and the citizens of the state, and not the private and political aspirations of the office holder, shall be the first consideration of those who have been raised to positions of honor and trust.

PRESCRIPTIONS FOR UNREASON- ABLE AMOUNTS OF NAR- COTIC DRUGS

The Harrison Narcotic Law does not limit in express terms the amount of drugs that a physician may prescribe; therefore, some doctors have assumed that they may give prescriptions for any quantity of the proscribed drugs without violating the letter or the spirit of the act. A little thought would convince those who entertain this view that the purpose of the law would be entirely negated if physicians were allowed to prescribe unlimited quantities of morphin and other habit-forming drugs.

This question has been clearly defined by a judicial ruling in the United States District Court for the Northern District of New York. This ruling was published in *The Journal of the American Medical Association* for April 16, which we quote for the information of our members:

The United States Circuit Court, Northern District of New York, in overruling a demurrer to an indictment charging a dealer with having violated the

Harrison Narcotic Law in selling to a customer 100 quarter-grain morphin sulphate tablets, on the prescription of a physician which did not indicate that the tablets were for the treatment of an addict or habitue to effect a cure, or for a patient suffering from an incurable or chronic disease, and in selling to the consumer 10,900 such tablets, under 109 such prescriptions issued by a physician, holds that the indictment charged the commission of an indictable offense under the provisions of the law. The court says that it is quite true that the law does not prescribe or limit in terms the amount in weight or quantity of opium or coca leaves, or any compound, manufacture, salt, derivative or preparation thereof, which may be sold, dispensed or distributed by a dealer to a consumer under and in pursuance of a written prescription issued by a physician registered under the act. It is also true that the act does not in terms limit in weight or quantity the amount of such drugs which such a physician may prescribe in the course of his professional practice only. But it seems plain to the court that it was the purpose of Congress to limit the quantity of these drugs that may be sold or dispensed by a dealer under and pursuant to a written order issued by a physician, and to limit the amount and quantity to such an amount and quantity as is or ought to be called for by a prescription issued by a physician "in the course of his professional practice only." Is it reasonable or probable that Congress intended that physicians may prescribe unlimited quantities and that dealers may fill such prescriptions? A prescription, even if issued by a physician, which on its face calls for an unusually and unreasonably large quantity of the drug is fraudulent, of course, as it bears internal evidence that it is not issued in good faith and that it is not a prescription. The court is of the opinion and holds that a physician who issues a prescription for an unusually large amount of these drugs, or of any one of them, which prescription shows on its face that the quantity prescribed is unreasonable and unusual, is guilty of an offense under the law, unless such prescription indicates the necessity therefor, and the dealer who fills such a prescription or order issued by a physician is guilty of an offense under the law. If not so, then physicians may prescribe unlimited quantities, and druggists may fill the prescriptions with impunity, and thus many of the evils sought to be remedied by the enactment of the so-called Harrison Narcotic Law will be augmented instead of being remedied.

THE EQUITABLE STINGS ITS MED- ICAL EXAMINERS

Indiana doctors who hold positions as medical examiners for the Equitable Life Assurance Society of New York, one of the largest and wealthiest insurance companies in the world, are being visited by Dr. F. W. Foxworthy, of Indianapolis, a representative of the Equitable, who naively gives the information that his visit has a twofold object; first, to determine how well the examiners for the Equitable are equipped to make life insurance examinations, and how efficient the examiners are, and, second, to advise the examiners that hereafter the fee for a life insurance examination for the Equitable will be the munificent and liberal sum of three dollars.

Ye Gods! the nerve of it, to send a representative to check up efficiency and equipment, pre-

* See page 338.

sumably for the purpose of demanding more and better service, while at the same time stinging the doctor by telling him that for all his time, effort and expense in equipping himself and in making himself competent to perform the most exacting work, he is going to have his remuneration cut down nearly 50 per cent. And Dr. Foxworthy volunteers the information that he expects an increase in his salary as a medical referee or some other kind of adviser for the Equitable. Why shouldn't he get a raise? Doesn't the Equitable pay its officers well, and isn't it worth a raise if Dr. Foxworthy can smooth things over here in Indiana so that the doctors will accept three dollars for an examination that is worth three times that amount? Somebody must pay for Dr. Foxworthy's services, the enormous salaries that the officers of the Equitable receive, and the large commissions that are paid to agents, and as all of it cannot be collected from the policy-holder there is no reason why it shouldn't be squeezed out of the fund which rightfully and justly should go to the medical examiners.

The very existence of life insurance companies depends upon the service rendered by the medical examiners, but what difference does that make in estimating the value of those services in dollars and cents. The doctor is an "easy mark" and will take what he can get and what is offered. And, remember that the proposition to reduce medical examination fees comes from no one else than some doctor who holds a soft berth himself and is willing to shove the knife into his brother practitioners if he can make a better showing for himself.

Will the Indiana doctors accept the cut in their fees for examinations for the Equitable? Some of them will, for they are a lot of spineless goats that can be driven to anything. They will even agree to give a complete physical examination of the applicant and add chemical and microscopical examination of the urine, a complete blood examination, not omitting a Wassermann, and to drive ten miles to render the service if the liberality of the Equitable in paying three dollars for the service can be counted upon. In the meantime the Equitable officers continue to enjoy princely salaries and the agents receive splendid commissions, while the real service man, the one who is most vital to the success of the company—is trampled upon ruthlessly, even gleefully, *because he stands for it.*

We call ourselves *professional* men, and we aim to render the highest type of skilled service, yet we would be better off in many respects if we ranked as workingmen and would organize like workingmen to secure fair treatment. On every side the medical profession is feeling the hand of oppression, and but little is being done to stop the injustice that is being done. Our work is recognized as being indispensable and

we are urged to continue it, but we are shamefully imposed upon because we lose sight of that old adage, "self protection is the first law of nature," and through lack of concerted defensive action permit our rights and privileges to be trampled upon.

There was a time when no large life insurance company thought of offering its medical examiners a fee less than five dollars, and the examination required was exceedingly superficial as compared to the exactions of today. Medical proficiency has increased, at an increased cost of time, energy and money, and the standard of living has likewise increased. Wages for any and all kinds of work excepting medical work have increased.

The only reason why medical fees have not increased, and why the Equitable can cut its fees for medical examinations, is that the Equitable deals with individuals and not the profession as a whole.

The doctors are not organized for protection. They organize for scientific improvement and all manner of social and benevolent advancement, but they fail utterly in recognizing that their future existence depends on organization for business.

If one, or a dozen doctors, tell the Equitable that they will not stand for Shylock treatment, it amounts to nothing, for the Equitable can fill the ranks when there are only a limited number of deserters, but if even a majority of the qualified physicians refuse to be browbeaten and coerced into accepting niggardly fees from a company that has an unsavory reputation for wild dissipation of funds, then some attention is given to the justice of the claim of medical men, that for such a painstaking and technical piece of work as a life insurance examination a respectable fee should be paid. Unless the medical men collectively, not singly, make some effort to correct some of the existing evils, it may not be long before the Equitable, under the advice of some astute chief medical adviser, will announce that medical examination fees have been cut to \$1. Some officers of the Equitable on a salary of \$50,000 per year may, as in former days, want to give a "sparrow dinner" at the expense of the company, and of course to cut down operating expenses to meet such drains the simplest way out is to cut down the cost of medical examinations.

How long will the medical profession stand for it? How long will we permit such questions to be settled by the individual without sanction or approval by the profession as a whole. In union there is strength. We fail now because we act as individuals. Why should not the members of the Indiana State Medical Association collectively take a stand on this question of compensation and then individually live up to the agreement?—*Journ. Indiana State Med. Assn.*

OBITUARY

AMBROSE TALBOT, M.D.

Dr. Ambrose Talbot, a graduate of Harvard Medical School, 1885, died in his office in Kansas City, June 1, 1916, from an attack of apoplexy. He was 56 years old.

Dr. Talbot located in Kansas City soon after his graduation in medicine and has been active in the medical circles of that city for the past thirty years. He was a member of the Jackson County Medical Society and the Missouri State Medical Association, and a Fellow of the American Medical Association.

WM. H. GIBBINS, M.D.

Dr. Wm. H. Gibbins, one of Clinton's prominent and active business men, passed away May 8, 1916, from paralysis, age 65. He had been in declining health for some years and two weeks previous to his death the fatal stroke befell him.

Dr. Gibbins was born in Belleville, Ill., Oct. 2, 1851. He attended Wesleyan University at Bloomington, Ill., and then having determined upon a medical career, studied in medical colleges in both Chicago and Cincinnati. After his graduation he located in Petersburg, Ill., where he practiced eight years, before coming to Clinton, Mo., in 1882. Since that time he kept in close touch not only with the profession but with active business and the welfare of Clinton, identifying himself always with the progress and prosperity of Clinton. For many years he devoted his attention very closely to the practice of his profession, but served the people generously and well through a long period as a member of the Board of Education and yielded his time and gave his ripened judgment freely to the welfare of the schools. He took active interest in the general progress of the medical profession, affiliating with various medical organizations, and was a member of Henry County Medical Society and the Missouri State Medical Association.

JESSE EDWARDS HUNT, M.D.

Dr. Jesse Edwards Hunt of 3734 Walnut Street, Kansas City, Mo., died at his home April 29, 1916, aged 38 years, of toxemia, due to septic infection of the throat. Though he made a strong fight for life, his system could not withstand the effects of the overwhelming poison.

Dr. Hunt was born at Centralia, Kan., May, 1878. He received his education in the public schools of Cleveland, Ohio. He then entered the medical department of the Western Reserve

University of Cleveland, graduating in 1902. He served as intern at Lakeside Hospital for nearly two years. After leaving Cleveland he returned to Atchison, Kan., where he began the practice of medicine. He was married to Miss Marian Ingalls of Atchison in January, 1906. She died in January, 1915, leaving no heir. Shortly after his marriage he went to Vienna, where he spent some time in postgraduate work, devoting his time to diseases of children. On his return to this country in 1907, he located in Kansas City, Mo., where he has largely devoted his time to diseases of children. He has been on the staff of Mercy Hospital for six or seven years. Dr. Hunt has also been on the teaching staff of the Medical Department of the University of Kansas. He was recognized as one of the leading pediatricists of the city.

Dr. Hunt's ancestors for two generations have been missionaries, serving in India and China. He leaves but one member of his immediate family, a sister, Mrs. Lukins of Atchison, Kan.

The Jackson County Medical Society mourns with his many friends over his untimely death, and extends its deepest sympathy to his sister, Mrs. Lukins of Atchison, Kan., and his aunt, Miss Francilla White of this city.

H. B. COLEMAN,
JOKSHAN FREYMAN,
W. H. COFFEY,
Committee.

—Bull. Jackson County Medical Society.

BERTAN H. WHEELER, M.D.

Dr. Bertan H. Wheeler, aged 44, after a lingering illness of some months, died of chronic nephritis at his home in Kansas City, 3927 Warwick Boulevard, April 27, 1916. He leaves a wife, both parents and three sons, whose respective ages are 17, 11 and 9 years.

Dr. Wheeler was born in Dekalb County, Mo., his mother being from Sweden and his father from Canada, he being of English and Scotch ancestry.

When 11 years of age he came to Kansas City, Mo., with his parents. He was educated in the public schools of this city. Subsequently he attended Westminster College at Fulton, Mo. He then matriculated in the Kansas City Medical College, receiving his degree in 1894. Afterward he attended postgraduate schools at New York and in London, England. He has since continued in general practice, except for one term as coroner of Jackson County, having been elected to that office in 1900. Dr. Wheeler has been identified with the Jackson County Medical Society from soon after beginning the practice of medicine. He has always stood for that which should characterize all true physi-

cians, honesty of purpose, true gentility and the strict observance of ethical conduct.

His many friends will greatly miss him. The Jackson County Medical Society extends to his widow and his sons their deepest sympathy, and to the aged parents who have lost their only child, their son, we ask God's most tender blessings.

H. B. COLEMAN,
JOKSHAN FREYMAN,
W. H. COFFEY,
Committee.

—*Bull. Jackson County Medical Society.*

NEWS NOTES

DR. J. FRANK HARRISON was elected Mayor of Mexico.

DR. E. H. WELCOME has been appointed city physician of Joplin.

DR. E. A. DOOLIN, President of the Vernon County Medical Society, was reelected Mayor of Nevada.

DR. F. M. VESSELLS, of Perryville, was a delegate to the Democratic National Convention at St. Louis, June 14.

A SPECIAL train made up of Missouri doctors and physicians from surrounding states left St. Louis for Detroit on the evening of June 11.

DR. JOSEPH GRINDON, of St. Louis, delivered an address before the Missouri Historical Society, June 26, on "Early St. Louis Physicians."

THE North Missouri Medical Association held its 24th annual meeting at Kirksville, June 15, under the presidency of Dr. A. L. Cambrie, of Atlanta.

DR. M. L. PETERS has leased a suite of rooms and is making alterations to convert them into a hospital. The capacity will be five beds when ready for occupancy.

DR. H. P. YEATER, President of the Dekalb County Medical Society and Mayor of Mayesville, was married on April 24 to Mrs. Essie Welsh, of St. Joseph.

DR. P. G. WOODS, of Versailles, was selected by the Democratic Convention at St. Joseph as elector from the 8th congressional district for President and Vice-President.

THE State Board of Health held a meeting for the examination of applicants for license to practice, June 12-14, at the Washington University Medical School, St. Louis.

DR. FRED T. MURPHY, of the Department of Surgery of Washington University Medical School, has returned from France where he has been serving in the American Ambulance since February.

DR. E. L. KEYS, JR., of New York City, was a guest of the St. Louis Medical Society, April 15, and spoke on "Some Interesting Cases of Diseases of the Urinary Tract," illustrated with lantern slides.

DR. J. ELLIOTT ROYER, formerly of Kansas City, who has spent the past three years in Europe doing special work in neurology, has returned and is now located in Chicago. For the last year he was connected with the neurological service in London military hospitals.

THE second annual meeting of the Interstate Association of Anesthetists will be held at Louisville, Ky., July 25-27, in connection with the National Dental Association. An interesting program is announced in which there is a paper by Dr. Dennis E. Jackson, of St. Louis, on "A New Method for the Production of General Analgesia and Anesthesia."

THE friends of the late Dr. Jesse S. Myer have raised a fund to establish a memorial for Dr. Myer in the Library of the St. Louis University Medical School in celebration of his graduation twenty years ago. The memorial took the form of an addition to the library of the medical school and a portrait of Dr. Myer, which were presented to the University at the commencement exercises, June 3.

THE College of Physicians and Surgeons, Medical Department University of California, begins its regular summer advertisement with this issue. This school is one of the best medical schools in the country. The medical and surgical staffs of the Los Angeles County Hospital, the second largest of its kind in the United States, are drawn from the teaching faculty of this school so that the students have extensive bed-side instruction.

DR. R. M. FUNKHOUSER, of St. Louis, has been appointed a member of the executive committee having in charge the work of drafting a workmen's compensation law for Missouri. Dr. Funkhouser will represent the Missouri State Medical Association. The other members of the committee are, Alroy S. Philips from the Bar Association, W. C. Essemueller representing the employers, Reuben T. Wood representing the employees, E. B. Thompson, representing insurance companies.

CARROLL County Medical Society reports the conviction at the May term of court of a chiropractor, B. F. Foster. He was found guilty of practicing medicine without a license and was fined \$300. About the same time a fortune teller, who had been doing a lucrative business, made the fatal mistake of telling one of his patrons that her husband had lost his heart to another woman, and the fortune teller was immediately run out of town without a trial.

DURING the auto races to the top of Pike's Peak at Colorado Springs, Colo., Aug. 11, 1916, the El Paso County Medical Society has arranged for a dollar dinner and other entertainment, at which time Dr. Burton W. Sippy of Chicago, will deliver an address on "The Treatment of Peptic Ulcer, Past and Present." Any member who can be present should notify Dr. E. L. Timmons, chairman of the entertainment committee, at Colorado Springs, Colo., so provision may be made for him.

THROUGH the generosity of Mr. Edward Mallinkrodt and Mr. John T. Milliken, of St. Louis, \$333,000 has been donated toward the \$500,000 needed to make the Medical School of the Washington University a beneficiary of a million dollar donation by the Rockefeller Foundation. Mr. Mallinkrodt and Mr. Milliken each gave \$166,000 and the balance no doubt will be collected before the end of the year. The million dollar donation from the Rockefeller Foundation is conditioned upon the University raising \$500,000.

DURING April and May the following articles has been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Non-official Remedies:

Mead Johnson and Co.: Mead's Dry Malt Soup Stock.

Hynson, Westcott and Co.: Enteric Coated Glycotaura Tablets.

H. C. Merker Co.: Petrogar, Petrobran.

Monsanto Chemical Works: Phenolphthalein-Monsanto.

Standard Chemical Co.: Standard Radium Solution for Drinking (1 Microgram Ra).

DRS. U. S. G. HUGHES and J. H. Hughes of Kansas City, were found guilty by the State Board of Health of selling morphine, heroin and cocaine to habitués and their licenses were revoked. Dr. J. H. Hughes' license was revoked for a period of 530 years, there being fifty-three counts against him, and the license suspended for ten years on each count. The license of Dr. U. S. G. Hughes was revoked for a period of 290 years, he being found guilty on twenty-nine counts. The Grand Jury has indicted both men for violating the Harrison Act.

THE Missouri Society for Mental Hygiene was organized in St. Louis on the evening of May 24, 1916. Missouri is the fifteenth state to organize such a society in affiliation with the National Committee for Mental Hygiene. Mr. Clifford W. Beers, Secretary of the National Committee, was present to facilitate the organizing. A committee was appointed to proceed with the completion of the organization with Dr. M. A. Bliss of St. Louis as chairman and Dr. Francis M. Barnes, Jr., of St. Louis, as secretary-treasurer. This society will work along the lines similar to those followed by the National Committee for Mental Hygiene and other state societies for the prevention of mental disease and betterment of the present conditions of care and treatment of the insane and feeble-minded in Missouri. It plans to have a central office with a social service worker in mental hygiene in the field. The clinic work will be continued for the present in the Mental Clinic of the Washington University Medical School under Dr. Barnes.

MEMBERSHIP CHANGES, JUNE

NEW MEMBERS

Lloyd H. Brannon, St. Louis.
Wm. G. Brown, Bosworth.
Philip Frank, St. Louis.
W. H. Hazelton, Conway.
Philip C. Jeans, St. Louis.
James Jett, Linn.
F. A. Johansen, Kahoka.
Charles D. Johnson, St. Louis.
F. H. Klieforth, St. Louis.
A. W. Koessel, St. Louis.
Eugene D. McCarty, St. Louis.
Horace L. Luckey, St. Louis.
J. Crescent Redington, St. Louis.
Julius A. Rossen, St. Louis.
Henry L. Rothman, St. Louis.
Lawrence A. Ryan, St. Louis.
Ulysses S. Short, St. Louis.
Guy L. Simpson, St. Louis.
Oda O. Smith, St. Louis.
Frederick W. Veninga, St. Louis.
Wm. F. Wagenbach, St. Louis.
George W. Wilson, St. Louis.

CHANGE OF ADDRESSES

Percival C. Barnes, 6312 Washington Ave., to 6188 Delmar Avenue, St. Louis.
Leo G. Bartels, 1050 Century Bldg., to 635-36 Century Bldg., St. Louis.
Newman R. Donnell, 5652 Cates Ave., to 3511 Washington Ave., St. Louis.
Joseph C. Hynes, Peirce City to 1246 Aubert Ave., St. Louis.
Vincent L. Jones, City Hospital, to 5646 Vernon Ave., St. Louis.

L. R. Leith, Butterfield, Mo., to Herndon, Va.
 Emmett W. McBratney, 7619 S. Broadway, to
 6829 Virginia Ave., St. Louis.

C. W. Metz, Altamont to Winston.

E. J. Nienstedt, Jackson, to Blodgett.

Emmett P. North, Metropolitan Bldg., to
 3511 Washington Ave., St. Louis.

James J. O'Keefe, 4298a Page Blvd., to 3221
 Lucas Ave., St. Louis.

F. G. Pernoud, 3100 S. Grand Ave., to 3010
 S. Grand Ave., St. Louis.

Albert S. Steiner, 5783 Kingsbury Pl., to 6116
 Waterman Ave., St. Louis.

REINSTATED

Walter McN. Miller, Columbia.

Chas. S. Williams, Carrollton.

RESIGNED

Thos. A. Caldwell, Lebanon.

DROPPED

James T. Sheffer, Latour.

DECEASED

Charles P. Bowden, Appleton City.

Wm. H. Gibbins, Clinton.

Edward O. Greer, St. Louis.

Ambrose Talbott, Kansas City.

WARNING

We are advised that a very clever swindle is being worked by a young man calling on physicians in various sections of the country. He is fraudulently soliciting orders and collecting money for subscriptions to medical journals, and for medical books published by various firms. He usually represents himself as a student, working his way through college, and trying to get a number of votes to help him win a certain contest. He sometimes uses the names of L. D. Grant, H. E. Peters, R. A. Douglas and F. C. Schneider, and he usually gives a receipt bearing the heading of some society or association, such as United Students Aid Society, the Alumni Educational League, the American Association for Education, etc.

The description given of this swindler is: Young man of Jewish type, rather slender, with very dark hair combed straight back, and shows his teeth plainly when talking.

The whole scheme is a fraud. The societies mentioned do not exist. The idea is to collect money by offering special discounts and prices on medical books and journals and skip with the money.

This young man does not represent W. B. Saunders Company, whose name he frequently uses. He is a fraudulent subscription agent, and physicians generally should be on the lookout for him.

CORRESPONDENCE

ATTITUDE OF CANDIDATES ON THE REMOVAL OF ELEEMOSYNARY INSTITUTIONS FROM POLITI- CAL CONTROL

At the annual meeting of the Missouri State Medical Association held at Excelsior Springs, May 8-10, the House of Delegates adopted the following:

It is the sense of this session of the Missouri State Medical Association that it favors the passage of a bill which shall take out of politics the appointments to eleemosynary institutions.

That these appointments shall be of a nonpartisan character based on competitive examination and merit.

That this resolution be sent to prospective candidates for governor and lieutenant governor with the request that they send their answers to the secretary of the Missouri State Medical Association, who shall publish the answers in the JOURNAL of the Missouri State Medical Association in order that the members of the Missouri State Medical Association may know where the prospective candidates stand on this question.

That this action be published in the JOURNAL of the Missouri State Medical Association.

A copy of this resolution was sent to each of the candidates for governor and lieutenant governor with the statement:

If it is your desire to announce your stand on this question I shall be glad to receive your reply at an early date so I can publish it in our JOURNAL for the information of the members of our association.

The answers from candidates for governor follow:

The only candidate who did not reply is Mr. Henry Lamb, Sedalia.

ST. LOUIS, May 25, 1916.

Dear Doctor:—Referring to your kind letter in which you enclose copy of the resolution of your association, in session at Excelsior Springs on May 8-10, as follows: "It is the sense of this session of the Missouri State Medical Association that it favors the passage of a bill which shall take out of politics the appointments to eleemosynary institutions.

That these appointments shall be of a nonpartisan character based on competitive examination and merit.

That this resolution be sent to prospective candidates for governor and lieutenant governor with the request that they send their answers to the secretary of the Missouri State Medical Association, who shall publish the answers in the Journal of the Missouri State Medical Association in order that the members of the Missouri State Medical Association may know where the prospective candidates stand on this question.

That this action be published in the JOURNAL of the Missouri State Medical Association."

I beg to say that as a member of the Charter Board which framed the present St. Louis Charter, I am on record as standing for the efficiency system in all

branches of the city government. I most assuredly favor eliminating politics from the eleemosynary institutions of the state. In case I should be elected governor I should appoint the very highest class men—men who stand at the very top of their profession in this state to public office.

Very sincerely yours,

FREDERICK D. GARDNER.

JEFFERSON CITY, Mo., May 20, 1916.

DR. E. J. GOODWIN,

3517 Pine Street, St. Louis, Mo.

My Dear Doctor:—I have the honor to acknowledge receipt of yours of the 19th giving copy of resolution adopted recently at Excelsior Springs, and asking that I state my position concerning the subject matter of the resolution.

For your information, and for the information of all interested, I desire to say that I am heartily in favor of such legislation as will take not only all eleemosynary institutions of the state out of politics, but I am in favor of such legislation as will take also the educational and penal institutions out of politics.

Yours truly,

CORNELIUS ROACH.

CARROLLTON, Mo., May 30, 1916.

DR. E. J. GOODWIN,

3517 Pine St., St. Louis, Mo.

My Dear Dr. Goodwin:—In reply to your letter of May 19 I desire to say that I am decidedly in favor of a bill that will take out of politics the eleemosynary institutions of Missouri. I have reiterated this in nearly every letter that I have sent out and if I am elected governor I hereby pledge myself to do everything possible for the good of these institutions along these lines. As to the manner of doing this, I at this time cannot answer.

I understand a bill will be presented at the next legislature along these lines and I am sure that it would meet with my approval in a general way. I think the biggest and best men should be secured to head these institutions and it is my intention if elected governor to do all I can along this line.

Your friend,

W. R. PAINTER.

JEFFERSON CITY, Mo., May 22, 1916.

DR. E. J. GOODWIN,

3517 Pine Street, St. Louis, Mo.

Dear Dr. Goodwin:—Yours of the 19th inst. just reached me.

If you will remember, I had the pleasure of attending a part of your Medical Association meeting this year. I there announced to a number of physicians that I was in hearty sympathy with the resolution passed by the association to take all eleemosynary institutions out of politics. I herewith enclose my platform which speaks in unequivocal terms on the subject. You may recall that in the Legislature of 1905 I introduced a sweeping resolution providing for nonpartisan state board control bill to take these institutions completely out of politics. I was able to pass the bill through the House but it was defeated in the Senate.

You may quote me as being in hearty sympathy with the resolution as passed by your association and may also quote my platform on the subject if you wish.

Yours very truly,

JOHN M. ATKINSON.

JEFFERSON CITY, Mo., May 22, 1916.

DR. E. J. GOODWIN,

Secretary Missouri State Medical Association,
3517 Pine Street, St. Louis, Mo.

Dear Doctor:—I beg to acknowledge receipt of your letter of May 19, asking that I announce my position with reference to appointments at eleemosynary institutions in Missouri.

I am enclosing copy of my announcement and you will find that over my signature I made this statement with reference to eleemosynary and penal institutions:

"These institutions should be free from political control. No person should be selected to care for the blind or insane simply because he is a good politician. Persons should be selected by reason of their peculiar fitness and not because of political prestige. If I am elected governor I will invoke a merit system for the management of all of these institutions and no change will be made at any institution in this state if it be shown that those in control are efficient. Efficiency and merit will be the only test."

Thus you will notice that I am the only candidate that has absolutely said, over his own signature, that he will not play politics with these institutions. Nothing I can now say would add to my announcement.

Very truly yours,

JOHN T. BARKER.

JEFFERSON CITY, Mo., May 23, 1916.

DR. E. J. GOODWIN,

Secretary Missouri State Medical Association,
3517 Pine St., St. Louis, Mo.

My Dear Sir:—I have yours of the 19th and note the resolution as typed by the medical association.

There is no question about where I stand on this proposition. Read the literature that I circulated three years ago and read Article 2 in my platform which I have circulated all over the state in this campaign.

Yours very truly,

JAS. A. HOUGHIN.

SEDALIA, Mo., May 29, 1916.

DR. E. J. GOODWIN,

Secretary Missouri State Medical Association,
St. Louis, Mo.

My Dear Sir:—I beg to acknowledge the receipt of your letter of the 19th advising me of the action taken at the annual meeting of the Missouri State Medical Association at Excelsior Springs May 9-10, and inquiring as to my position on the resolution which you adopted concerning the government of the eleemosynary institutions.

I am pleased to be advised of the position which your association takes on this question, as I wish to be fully informed as to the sentiment of the people of the state on all questions effecting the public service, and I fully recognize the high professional character of the members of your association and the value of your counsel and advice on all questions effecting the public health.

I take it that your purpose is to bring to the management of these institutions the highest possible efficiency so that they may fully serve the purpose for which they are maintained. With this purpose I am in hearty accord, and should I be elected governor no one will be appointed to any position who does not possess the qualifications necessary to the efficient discharge of his duties. I shall appoint boards composed of men whom I am assured will

have the highest interest of the institution at heart, and shall require of them service devoted to the welfare of the patients committed to their care and treatment, and not to the building up of partisan machines.

Thanking you for your courtesy in sending me a copy of your resolution, and assuring you that I will give consideration to any suggestions which your association shall see fit to make, I remain

Very sincerely yours,

JOSEPH E. SWANGER.

ST. JOSEPH, Mo., May 22, 1916.

E. J. GOODWIN, M.D.,
3517 Pine St.,
St. Louis, Mo.

My Dear Sir:—Your letter of May 19th, reached me this morning. In reply thereto, I beg to say I am making the pledge upon every stump, from which I speak, throughout the state, that if I am elected governor, I will take the police boards, the election boards, excise commissioners, and the boards of managers of our asylums and educational institutions out of politics.

My opinion is that the people of this state have had quite enough of partisan politics in the management of their business affairs.

Thanking you for calling my attention to this matter, I am

Yours very truly,

C. D. MORRIS.

The answers from candidates for lieutenant governor follow:

The candidate for lieutenant governor who did not reply is Mr. Cecil Thomas, Jefferson City.

WARRENSBURG, Mo., May 28, 1916.

DR. E. J. GOODWIN,
St. Louis, Mo.

Dear Sir:—I am in thorough sympathy with the resolution adopted by the Missouri State Medical Association which favors the passage of a bill to remove the eleemosynary institutions as far as possible from the sphere of politics. It would be not only humanitarian, but progressive and business-like. I am sure the institutions would not only far better serve their purposes under such a plan, but that under nonpartisan management Missouri would reap a financial benefit. The last, however, is of small importance when skillful, efficient treatment of the unfortunate inmates is considered. I favor a state board of control and a closer business relationship among all our institutions, penal and eleemosynary. My views on this subject are embodied in the report to the last Legislature, made by a special Senate committee of which I was a member. After visiting more than twenty states I was thoroughly convinced that Missouri should make radical changes along these lines, and it is so stated in the report which I had the honor of preparing.

I am glad the State Medical Association has taken this matter up and I am in full sympathy with the movement. In fact it might not be out of place for me to state that, as many of your profession know, I have always taken pleasure, during my legislative career dating back to 1905, in supporting measures recommended by them.

Thanking you for this privilege of expressing my views, I am,

Very truly,

WALLACE CROSSLEY.

ROLLA, Mo., May 22, 1916.

DR. E. J. GOODWIN,
3517 Pine St.,
St. Louis, Mo.

Dear Sir:—I acknowledge receipt of your favor of the 19th inst., and replying thereto will say that I cannot commit myself unqualifiedly to the resolution adopted by your Association. To do so would commit me to proposed legislation the subject matter of which, and the limits of which, I do not know. I am of the opinion that a man's politics should be given little consideration in his appointment to positions which have the care and protection of the insane, the epileptic and the tubercular patients. I am heartily in favor of a system which will place the charge of such state institutions that have the care of these unfortunates in the hands of men whose peculiar qualifications and experience fit them to know the needs and proper treatment for the inmates of such institutions.

At the same time, there is an executive and administrative side to the management of these institutions which the expert scientist may not be able to successfully handle, and it seems to me that there should be some recognition in your proposed law to this part of the question.

Without discussing the question at length I can briefly say that I am opposed to the operation of these institutions as a political machine or political asset to any man, and am in favor of any system that will insure a safe executive management for the state, and a careful and scientific treatment of the inmates.

With kindest regards, I am,

Yours truly,

J. J. CRITES.

ST. LOUIS, Mo., June 9, 1916.

Dear Dr. Goodwin:—Your letter of May 19th, advising me of the action of the House of Delegates of the Missouri State Medical Association, with reference to appointments to the State eleemosynary institutions, duly received.

I understand this is addressed to me as a candidate for the Republican nomination for the office of Lieutenant-Governor, with the request that I state whether or not I will be in favor of such legislation.

It seems to me that the question should be propounded to candidates for legislative offices. The functions of the office of Lieutenant-Governor could be of little or no influence in such a matter. The Republican party in this state in the past has demonstrated that it favored taking these institutions out of politics. Of course, I would be in favor of any plan that would better the conditions of our State institutions.

During my term as a member of the Legislature in 1911, I found it possible to follow the recommendations of your Association, with respect to several measures, and, coming from you, the suggestions with reference to the present matter have great weight with me, but your plan is not explained in sufficient detail for me to pass judgment upon it definitely.

Yours very truly,

ROY F. BRITTON.

CLINTON, Mo., June 6, 1916.

Dear Dr. Goodwin:—I claim to be the first man in the state to make an extended argument for the taking out of politics the medical staffs of the eleemosynary institutions. The removal of the medical staff of state hospitals out of politics is desirable:

1st—Because the state needs to derive some "preventive medicine" from her state institutions. To do

so takes time and a different system of administration.

2nd—The state institutions need the application of the science of treatment to the inmates. The present system does not permit of much more than the confinement and physical well-being of the patients and the most superficial oversight of the unfortunates by men not especially prepared or equipped for the care of the same. There is at present the application of the science of politics, but little, indeed, of the science of treatment by experts. There is no time for their development, nor any real encouragement to ambition.

3rd—There is a big temptation for a man to do his life work in connection with a state institution because the state institution will preserve his name and work indefinitely.

4th—I propose to add the best minds of the Medical Association to my own in an honest effort to find the very best system to take the place of the old one.

Very respectfully,
(Signed) ARTHUR N. LINDSEY.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL, 1916

(UNDER THIS HEAD WE LIST THE SOCIETIES WHICH HAVE PAID THE STATE ASSESSMENT FOR ALL THEIR MEMBERS)

- Webster County Medical Society, Dec. 15, 1915.
- Benton County Medical Society, Dec. 16, 1915.
- Cape Girardeau County Medical Society, Dec. 19, 1915.
- Schuyler County Medical Society, Dec. 22, 1915.
- Atchison County Medical Society, Dec. 27, 1915.
- Clark County Medical Society, Jan. 1, 1916.
- Madison County Medical Society, Jan. 10, 1916.
- Clinton County Medical Society, Jan. 11, 1916.
- Sullivan County Medical Society, Jan. 17, 1916.
- Phelps County Medical Society, Jan. 17, 1916.
- Camden County Medical Society, Jan. 18, 1916.
- Dent County Medical Society, Jan. 31, 1916.
- Barton County Medical Society, Feb. 3, 1916.
- Moniteau County Medical Society, Feb. 7, 1916.
- Henry County Medical Society, Feb. 21, 1916.
- Putnam County Medical Society, Feb. 24, 1916.
- Pulaski County Medical Society, Feb. 28, 1916.
- Vernon County Medical Society, Mar. 3, 1916.
- Ste. Genevieve County Medical Society, Mar. 15, 1916.
- Cooper County Medical Society, Mar. 30, 1916.
- Montgomery County Medical Society, April 4, 1916.
- Ralls County Medical Society, April 6, 1916.
- Livingston County Medical Society, April 12, 1916.
- Macon County Medical Society, April 14, 1916.
- Dekalb County Medical Society, April 17, 1916.
- Wright County Medical Society, April 25, 1916.
- Carter-Shannon County Medical Society, April 26, 1916.
- Greene County Medical Society, April 28, 1916.
- Iron County Medical Society, April 28, 1916.
- Platte County Medical Society, April 28, 1916.
- Grundy County Medical Society, May 3, 1916.
- Adair County Medical Society, May 5, 1916.
- Lafayette County Medical Society, May 5, 1916.
- Cass County Medical Society, May 15, 1916.
- Johnson County Medical Society, May 20, 1916.
- Ray County Medical Society, May 29, 1916.

Missouri State Medical Association

Fifty-Ninth Annual Meeting, held at
Excelsior Springs, May 8-10, 1916

MINUTES OF THE HOUSE OF DELEGATES

Elms Hotel

Monday, May 8, 1916—Morning Session

The House of Delegates was called to order by the President, Dr. C. R. Woodson, St. Joseph, at 10 a. m.

At the roll call sixty-seven members answered present, as follows:

County	Delegate
Audrain.....	Robert W. Berrey, Mexico
Bates.....	T. C. Boulware, Butler
Boone.....	J. E. Thornton, Columbia
Buchanan.....	H. S. Forgrave, St. Joseph
Buchanan.....	Daniel Morton, St. Joseph
Caldwell.....	J. A. Waterman, Breckenridge
Callaway.....	R. N. Crews, Fulton
Carroll.....	R. F. Cook, Carrollton
Carter-Shannon.....	T. W. Cotton, Van Buren
Cass.....	H. Jerard, Pleasant Hill
Cedar.....	L. T. Dunaway, El Dorado Springs
Chariton.....	G. W. Hawkins, Salisbury
Clay.....	W. S. Wallace, Excelsior Springs
Clinton.....	P. M. Steckman, Plattsburg
Cooper.....	G. J. Weitz, Boonville
Daviess.....	M. A. Smith, Gallatin
Gasconade-Maries-Osage.....	J. W. Burgess, Belle
Greene.....	S. A. Johnson, Springfield
Greene.....	A. L. Anderson, Springfield
Grundy.....	T. E. Moore, Trenton
Henry.....	A. J. McNees, Clinton
Holt.....	B. T. Quigley, Mound City
Howard.....	T. H. Dinwiddie, Higbee
Howell.....	H. C. Shuttee, West Plains
Jackson.....	N. P. Wood, Independence
Jackson.....	J. N. Jackson, Kansas City
Jackson.....	R. E. Castelaw, Kansas City
Jackson.....	William Frick, Kansas City
Jackson.....	Franklin E. Murphy, Kansas City
Johnson.....	L. J. Schofield, Warrensburg
Lawrence-Stone.....	H. L. Kerr, Crane
Linn.....	C. D. Stratton, Rothville
Livingston.....	H. M. Gracc, Chillicothe
Miller.....	W. L. Allee, Eldon
Mississippi.....	J. C. Boone, Charleston
Moniteau.....	J. B. Norman, Tipton
Montgomery.....	E. E. Evans, New Florence
Newton.....	H. L. Porter, Seneca
Nodaway.....	F. R. Anthony, Maryville
Perry.....	F. M. Vessells, Perryville
Pettis.....	Guy Titsworth, Sedalia
Platte.....	H. M. Clark, Platte City
Putnam.....	L. L. Gray, Powersville
Ralls.....	T. J. Downing, New London
Randolph.....	C. B. Clapp, Moberly
Ray.....	R. L. Hamilton, Richmond
Saline.....	F. W. Tuttle, Mt. Leonard
St. Louis City.....	J. H. Duncan, St. Louis
St. Louis City.....	L. C. Boisliniere, St. Louis
St. Louis City.....	Cyrus E. Burford, St. Louis
St. Louis City.....	J. C. Morfit, St. Louis
St. Louis City.....	R. M. Funkhouser, St. Louis
St. Louis City.....	Walter Baumgarten, St. Louis
St. Louis City.....	C. E. Hyndman, St. Louis
St. Louis City.....	Joseph Grindon, St. Louis
St. Louis City.....	R. Emmet Kane, St. Louis

St. Louis City.....Percy H. Swahlen, St. Louis
 St. Louis City.....H. A. Hanser, St. Louis
 St. Louis City.....George Richter, St. Louis
 St. Louis City.....Robert E. Schlueter, St. Louis
 St. Louis County.....Horine Miles, Manchester
 Shelby.....A. M. Wood, Lentner
 Taney.....Guy B. Mitchell, Branson
 Texas.....Leslie Randall, Licking
 Vernon.....C. B. Davis, Nevada
 Webster.....W. J. Rabenau, Fordland
 Wright.....E. C. Wittwer, Mountain Grove

On motion by Dr. Frank DeVilbiss the minutes of the previous meeting were adopted as printed and published in THE JOURNAL.

Dr. C. B. Clapp, Vice President, took the chair. The President read his message and recommendations as follows:

To the House of Delegates, Missouri State Medical Association:

I have no message. I only want to make a few recommendations and reports.

I have appointed Dr. O. A. Smith of Farmington to fill the vacancy in the Council caused by the removal from the Twenty-Fifth District of Dr. T. T. O'Dell; Dr. A. H. Hamel of St. Louis to fill the vacancy in the Council caused by the death of Dr. F. J. Lutz; and Dr. A. R. McComas of Sturgeon, chairman of the Judicial Council, to fill the vacancy caused by the death of Dr. F. J. Lutz.

Two new societies have been organized, namely, Perry and Dade.

I found all societies that I visited in good shape and in zealous working order. The societies were usually well attended and the papers were of more than usual interest.

Greene County had a full meeting and all very representative men. Other societies visited were a district meeting at Holden, Johnson County; Henry County Medical Society at Clinton; Clay County Medical Society at Liberty and at Excelsior Springs; the organization of the Dade County Medical Society; Barton County Medical Society at Lamar; Cedar County Medical Society at El Dorado Springs; Vernon County Medical Society at Nevada; Butler County Medical Society, Bates County Medical Society and Caldwell County Medical Society.

I would recommend that the sinking fund and the defense fund be increased.

I would recommend a strict observance of the laws governing societies, and I especially recommend that the Council remain throughout the session and hold a meeting and reorganize on the last day of the session. I would recommend that the councilors of the various districts give as much of their time and attention to harmonizing the work of their districts as they can well spare.

I would suggest a distribution of the honorary positions throughout the state; that is, by way of appointments, thus extending the field of workers that a good feeling may prevail throughout the state.

I would recommend that every effort possible be made to organize a society in every county or that the county affiliate with another society. Insist on committees doing the duties or filling the positions assigned them. Have a strong legislative committee.

I have found the work of the secretary and the treasurer to be very thorough. The mode of keeping the books is a semi-annual examination of all accounts by a certified accountant. I also found that the condition of the treasury is most excellent. Perhaps a larger membership is enrolled with fewer delinquents and more money in the various funds than at any previous year. In fact, everything pertaining to the Association is in an exceedingly healthful condition.

The office of the State Medical Association was removed to 3517 Pine Street, St. Louis, where we have more room, I think a more appropriate place and better opportunities for keeping the records, journals and transaction of business. I found the records of the office in good shape, systematically arranged and a methodical manner of imparting desired information to any member of the state who may call for it, and found an improved condition along these lines.

I found the work of Misses Blanche Osburn and Aileen Patton to be of a highly satisfactory character.

On motion, the President's message was referred to the Judicial Council.

The President appointed the following Nominating Committee: Daniel Morton, chairman, St. Joseph; J. A. Waterman, Breckenridge; A. L. Lewis, Sumner; S. A. Johnson, Springfield; N. P. Wood, Independence; J. B. Norman, Tipton; H. L. Porter, Seneca; C. B. Clapp, Moberly; Walter Baumgarten, St. Louis, and Guy B. Mitchell, Branson.

Dr. W. S. Wallace, Excelsior Springs, reported for the local Committee on Arrangements. On motion, the report was received.

Dr. A. R. McComas read the report of the Judicial Council, as follows:

The Executive Committee of the Judicial Council begs leave to submit the following report of its activities during the year:

There have been fewer meetings of the Executive Committee during the past year than in former years for the reason that many of the questions arising have been handled in an able and satisfactory manner by the Secretary, on account of his intimate knowledge of past and present conditions of the Association. In each instance his action has been upheld by the Executive Committee.

One special meeting of the Judicial Council was held June 8, 1915, the minutes of which were published in full in the July, 1915, number of THE JOURNAL.

A ruling on the drug law passed by Congress and known as the Harrison Act, as it applies to Missouri, was given to the collector of internal revenue by Attorney-General Barker, in which he stated that only physicians licensed by the state board of health should be allowed to register and prescribe the narcotics listed in this law. Three months later, in a letter to George A. Still of Kirksville, the attorney-general delivered another opinion in which he held that osteopaths should be allowed to register under the Harrison Act, notwithstanding that the law under which they are licensed and practice defines osteopathy not to be the practice of medicine as defined by Article 1, Chapter 78, of the Revised Statutes of Missouri. It seems he gave this decision on the theory that the use of narcotics was taught in the American School of Osteopathy, a school whose statutory requirements for entrance are nil, and of whose equipment for teaching the law makes no requirement. This truly would be a sad state of affairs if the latter opinion of the attorney-general were founded on the real purpose and intent of the law, which presumably was passed in the interest of public health. Our attorney, Mr. Morton Jourdan, in an able opinion, concludes that the attorney-general was right in his first opinion and wrong in the second.

The finances of the Association are in good condition. The books are kept in a business-like manner, the receipts and disbursements are properly listed and can be referred to at any moment.

The expenses of the office of the Secretary-Editor are kept down to the minimum and economy is everywhere practiced. The work in his office is already large and is increasing, but so far he has not been compelled to increase the force of assistants.

The office of the Association was moved last November from 3525 Pine Street to 3517 Pine Street, St. Louis. This was made necessary because of the limited space we could occupy in the building of the St. Louis Medical Society, whose tenants we were; in our present quarters the space is ample for our needs. The lease on our present quarters expires Aug. 15, 1916.

Last year we established a sinking fund by placing \$1,000 to the credit of this fund. We recommend that \$1,500 be added to the sinking fund at this meeting, since this fund can be drawn on if necessary.

During the year your Executive Committee has found it necessary to consult an attorney on many points. Mr. Morton Jourdan of St. Louis has always given his opinions and advice freely. We believe the Association should express its appreciation of his services.

On motion by Dr. Kane of St. Louis, seconded by Dr. Morton of St. Joseph, the report of the Judicial Council was adopted.

Dr. R. Emmet Kane moved that Dr. McComas be appointed a committee of one to convey the thanks of the Association to Mr. Morton Jourdan for his advice and legal services. Seconded and carried.

The Secretary submitted his report, and on motion of Dr. Grindon, duly seconded, the report was adopted as printed in the pamphlet. (See page 351.)

The report of the Treasurer was read, and on motion referred to the Judicial Council. (See page 351.)

The report of the Committee on Scientific Work was read by Dr. E. J. Goodwin, chairman.

Dr. J. B. Norman moved that the date of Dr. Dorsett's year as President be changed to 1899 instead of 1889, as contained in the report. Seconded and carried. On motion of Dr. Funkhouser, duly seconded, the report was received (See page 352.)

Dr. J. N. Jackson moved that it is the sense of the House of Delegates that the Committee on Scientific Work invite two men of distinction to address this Association at its annual sessions. Seconded. Discussion by Drs. Funkhouser, Hamel, Vessells, Morfit, Woodson, Grindon, Boone, Shuttee, Forgrave, Clark and Wood. Motion lost by 14 aye, 30 no.

Dr. Jackson moved that a memorial service be held on Tuesday evening at 8 o'clock, as recommended by the Committee on Scientific Work, and that a committee be appointed to arrange the program for that meeting. Seconded and carried. The President appointed the Necrology Committee, of which Dr. S. A. Johnson is chairman, to act in this capacity.

Dr. R. M. Funkhouser read the report of the Committee on Health and Public Instruction. On motion by Dr. Grindon, which was seconded, the report was received. Discussion by Drs. F. M. Vessells, Funkhouser, McComas, Jackson, Mitchell, Woodson, Grindon, DeVilbiss, Murphy, J. D. Smith and Hamel. (See page 353.)

Dr. J. N. Jackson moved that the Committee on Health and Public Instruction be requested to present resolutions favoring the removal of state hospitals and eleemosynary institutions from political control and report to the House of Delegates in the afternoon for action. Seconded and carried.

Dr. W. S. Wallace of Excelsior Springs moved that a certain fund be placed at the disposal of the Committee on Health and Public Instruction for the purpose of assisting county societies in prosecuting violators of the medical practice law. Seconded. Discussion by Drs. McComas, Funkhouser, Clapp, Woodson, Wallace and Anderson. A vote was taken and the motion was lost.

Dr. Robert E. Schlueter read the report of the Defense Committee. On motion of Dr. Funkhouser, the report was received and adopted except that paragraph pertaining to the appropriation of money, which was referred to the Judicial Council. (See page 352.)

Dr. W. H. Breuer, chairman of the Publication Committee not being present, it was moved that this report be adopted as published in the pamphlet. Seconded and carried. (See page 353.)

In the absence of Dr. George Dock, chairman of the Council on Medical Education, it was moved by Dr. Funkhouser, and seconded, that the report be received as printed in the pamphlet. Discussion by Drs. Kane, Jackson, Hamel, Norman, Wright. A vote was taken and the motion carried. (See page 353.)

Dr. Kane of St. Louis rose to a point of information and asked whether or not a ruling has ever been made by the Missouri State Medical Association or by the American Medical Association concerning the right of a member of either of these bodies to consult with an irregular practitioner—an osteopath, for instance.

The President ruled that Dr. Kane's question was covered by the Principles of Medical Ethics.

On motion of Dr. Wallace, seconded and carried, the meeting adjourned until 3 o'clock p. m.

Afternoon Session

The House of Delegates was called to order by the President at 3 o'clock.

The roll was called by the Secretary and a quorum found present.

Dr. Kane renewed his point of information concerning consultation with osteopaths raised at the morning session, and said the Principles of Ethics did not define the standing of a member who consults with an irregular.

The President said he would be obliged to ask for time in order that he might consider the matter.

Dr. Kane said he wished to obtain a ruling from the Assembly.

Dr. Grindon said he had an amendment to the by-laws to cover the point under discussion, which he would present to the House at the proper time.

Dr. Boisliniere moved that it is the sense of the delegates present that it is unethical for a regular practitioner of medicine to consult with irregular practitioners of medicine. Seconded and carried.

Dr. Daniel Morton, chairman of the Committee on Revision of the Constitution and By-Laws, said nothing had been referred to the committee during the year. He said the by-laws did not provide for a committee on revision of constitution and by-laws, and therefore the committee had no status. As a reference committee it would no doubt serve a useful purpose, but in the absence of authority in the organic law for the creation of such a committee he was of the opinion that it should be discharged and another committee be appointed for a definite purpose and that committee discharged when the object for which the committee was appointed had been attained. He therefore made this verbal report.

Dr. Kane moved that the present Committee on Revision of the Constitution and By-Laws be discharged and that the same committee be appointed to present a proper revision of the constitution and by-laws at the next annual meeting of the Association. Seconded by Dr. Grindon and carried.

Dr. Grindon proposed an amendment to Chapter X, "Rules of Conduct," as follows: Substitute the words "The Principles of Medical Ethics" for the words "Code of Ethics," so that the chapter shall read:

"Chapter X, Rules of Conduct. Section 1. This Association recognizes and accepts the principles laid down in the Principles of Medical Ethics of the American Medical Association.

"Sec. 2. It is unprofessional for a physician to recognize or support in any manner any school of medicine or any alleged method of treating disease or injury, based on an exclusive dogma or sectarian system or professedly limited to the use of certain methods or designated by special titles or otherwise reputed in the profession as irregular. For a physi-

cian to consult with, exchange material benefits with, recommend or support a practitioner of any such system is unprofessional and constitutes grave misconduct."

The motion was seconded by Dr. Funkhouser and referred to the Committee on Constitution and By-Laws.

Dr. Morfit introduced an amendment to Chapter VII, Section 1, of the by-laws by adding after the last word the following words: "Ten members of the Judicial Council shall constitute a quorum, excepting in matters affecting the character of members when a majority of the Council shall be required to act." On motion, the amendment was referred to the Committee on Constitution and By-Laws.

The Secretary read an amendment to the constitution as follows:

Amend Article IV, Section 2, of the constitution, entitled "Members," by striking out the words "The members of the Association shall be such of the members of the component county societies as shall be approved by this Association," and substitute the following: "The members of this Association shall be members of the component county medical societies."

DANIEL MORTON.

H. S. FORGRAVE.

By instruction of the Buchanan County Medical Society.

The Committee on Cancer had no report.

The Committee on Blindness had no report. The chairman, Dr. A. W. McAlester, Jr., said the committee ought to be dismissed unless money was appropriated for its use to make an investigation of conditions of the blind in Missouri so that a proper report could be made, and he moved that the Committee on Blindness be discontinued for this session. Seconded and carried.

Dr. Grindon, chairman of the Committee on Vaccination, said the committee had held no meetings during the year. He said the committee made a report three years ago stating the vaccinal status in Missouri as far as could be obtained at that time, and that conditions had not materially changed since then.

Dr. S. A. Johnson, chairman of the Necrology Committee, presented the report of that committee. Dr. Grindon moved that the reading of the report be dispensed with. Seconded and carried.

Dr. Grindon moved that the report of the Necrology Committee be received, as printed in the pamphlet. Seconded and carried. (See page 354.)

Dr. A. R. McComas, chairman of the Committee on Health and Public Instruction, reported as follows:

It is the sense of this session of the Missouri State Medical Association that it favors the passage of a bill which shall take out of politics the appointments to eleemosynary institutions. That these appointments shall be of a nonpartisan character based on competitive examination and merit.

That this resolution be sent to prospective candidates for governor and lieutenant-governor with the request that they send their answers to the Secretary of the Missouri State Medical Association, who shall publish the answers in THE JOURNAL of the Missouri State Medical Association in order that the members of the Missouri State Medical Association may know where the prospective candidates stand on this question.

That this action be published in THE JOURNAL of the Missouri State Medical Association.

A. W. McALESTER, JR.,

ROBERT M. FUNKHOUSER,

A. R. McCOMAS, *Chairman*

Committee on Health and Public Instruction.

Seconded and carried.

Dr. Kane read the following resolutions from the St. Louis Medical Society:

WHEREAS, Dr. Richard C. Cabot, assistant Professor of Internal Medicine at the Harvard Medical School, has published in the April and May issues of the "American," a lay magazine, an article entitled, "Better Doctoring for Less Money," illustrated with a two-third page photograph of himself and family and with a special notice on the magazine cover directing particular attention to the article; and

WHEREAS, In this article he makes the direct charge of incompetency on the part of the private practitioner of medicine, and accuses him of prevarication and deception in dealing with his patients, cultivating the 'doctor habit' among his patients, 'holding' patients whether benefited by treatment or not, conniving with druggists to increase the number of visits by patients, and having no interest in his patients aside from pecuniary benefit to himself; and

WHEREAS, These accusations are applied not to a particular element in the profession, but to the profession as a whole; and

WHEREAS, Dr. Cabot advocates the adoption of the 'group-method' or 'closed hospital' method as a substitute for the present method of practice; and

WHEREAS, On account of the widespread publicity given this article, great loss of confidence in the private practitioner of medicine and encouragement to the formation of closed hospitals will be the inevitable result; therefore be it

Resolved, That in making this unwarranted attack upon his fellow medical men, Dr. Richard C. Cabot is guilty of a gross violation of ethics, that the statements set forth therein are unfair and untrue, and represent the biased opinion of a man seeking to accomplish his own selfish personal ends; and be it further

Resolved, That the St. Louis Medical Society is unconditionally opposed to the 'group method' or 'closed hospital' method, since such control is in direct violation of Article IV, Section 2 of the Principles of Ethics of the American Medical Association: "It is unprofessional for a physician to dispose of his services under conditions . . . which interfere with reasonable competition among the physicians of a community. To do this is detrimental to the public and to the individual physician and lowers the dignity of the profession"; and be it further

Resolved, That the average physician by contributing 20 to 25 per cent. of his time to worthy charity, is doing his full share, and more, and if further relief from a faulty economic system is imperative it should come through other channels and from other sources; and be it further

Resolved, That the delegates be instructed to present this matter before the Missouri State Medical Association, to the end that, it be brought to the attention of the Judicial Council of the American Medical Association.

Discussion by Drs. Jabez N. Jackson and Walter Baumgarten.

Dr. A. W. McAlester, Jr., moved to lay the resolution on the table. Seconded and carried.

Dr. L. C. Boisliniere read a resolution as follows:

WHEREAS, There has been introduced in the Senate of the United States by Senator Works of California, a resolution known as Senate Joint Resolution No. 120, making it unlawful for any member of the Public Health Service to become a member of any medical or private health association, and,

WHEREAS, This resolution charges specifically and by name that the American Medical Association is intended to advance the personal and private interests of its members as its sole object, therefore be it

Resolved, That the medical associations composed of the regular medical profession and especially the American Medical Association exist far less for the benefit of their component members than for the benefit of the entire public and that to exclude members of these associations from holding office in the Public Health Service would be to limit such officials to persons out of touch and sympathy with true medical science and progress; and be it further

Resolved, That Senate Joint Resolution No. 120, if adopted, would equally affect all other technical and sociologic associations dealing in any way with sanitary and health measures; and be it further

Resolved, That the Missouri State Medical Association absolutely opposes Senate Joint Resolution No. 120 and that each component society of this Association be instructed to urge the senators and congressmen from Missouri to use their utmost endeavors to defeat this pernicious effort at dangerous class legislation.

Seconded by Dr. Boone and carried.

Dr. McAlester read the following resolution:

Resolved, That the councilors be instructed to meet with each county society in their districts before the next annual meeting of this Association to explain to the members the plan of legal defense furnished by the State Association, and the activities of the Association in regard to violations of the medical practice act. That they obtain from the county societies an expression as to the desirability of an assessment of \$5 a member per annum for a period of five years to create a fund for legal defense solely—not for the payment of judgments—and for the purpose of providing an attorney for such other activities as the Association may undertake for the protection and promotion of the welfare of its members. That this House of Delegates recommend the adoption of this assessment. Seconded by Dr. Grindon and carried.

Dr. Woodson vacated the chair temporarily and Dr. C. B. Clapp presided.

Dr. J. B. Norman introduced the following amendment to Chapter V, Sec. 2, of the by-laws: Strike out the last three words, "House of Delegates," and insert in lieu thereof the words, "The Missouri State Medical Association at 10 a. m. on the second day of the annual meeting."

On motion the amendment was referred to the Committee on Revision of Constitution and By-Laws.

The secretary read a letter from Mr. Walter Williams inviting the Association to appoint a committee to confer with the Missouri State Teachers' Association and other bodies on the advisability of calling a convention for amending the constitution of the state of Missouri.

Dr. Wittwer moved that the president appoint a committee of five to represent the Association in that conference. Seconded and carried.

Dr. Forgrave moved that the President's address be made the special order of business on Tuesday morning at eleven o'clock in order that members arriving on the special trains from St. Joseph and other points may be present to hear the address. Seconded and unanimously carried.

The Nominating Committee, not being ready to report, was given more time.

The next order of business was the selection of the place of next meeting. Dr. A. L. Anderson of Greene County Medical Society invited the Association to meet at Springfield in 1917. Dr. J. J. Gaines, of the Clay County Medical Society, invited the Association to meet at Excelsior Springs in 1917.

On motion the nominations were closed and a rising vote was taken. The vote resulted in 29 for Springfield and 22 for Excelsior Springs. Springfield was declared the place of next meeting.

Dr. Norman introduced an amendment to the Constitution as follows: Amend Section 3 of Article VIII of the Constitution by striking out the word "President" in the first line of the section, and create a new section to be known as Section 4 of Article VIII, which shall read as follows: "The President shall be elected by the Association in general session; but no person shall be eligible to the office of President who is not in attendance at that annual session or who has not been a member of the Association for at least two years."

(Signed) J. B. NORMAN,
GUY TITSWORTH.

Without action this amendment lies over until the next annual meeting.

Dr. Daniel Morton, chairman of the Committee on Revision of Constitution and By-Laws, reported as follows: Amend Chapter VII, Section 1, of the by-laws by adding to said section the following: "Three members of the Council, elected by the Council, shall be the Executive Committee of the Council, and shall constitute a quorum for the transaction of all business excepting that concerning the conduct of a member when a majority of the membership of the Council shall be necessary to act; provided, the action of the Executive Committee of the Council shall be subject to the approval of the Council."

(Signed) DANIEL MORTON,
JOHN C. MORFIT.

On motion the amendment was referred to the Committee on Revision of the Constitution and By-Laws.

On motion, the house took a recess of ten minutes.

On reconvening, the secretary read the report of the Committee on Nominations as follows:

The Nominating Committee met in the ballroom of the Elms Hotel, the full committee in attendance, with the result that the following nominations were made: Vice Presidents, T. B. M. Craig, Nevada; Reuben Barney, Chillicothe; Roger W. Gay, Ironton; Thomas Chowning, Hannibal; T. N. Bogart, Excelsior Springs. Delegates to the American Medical Association: W. J. Ferguson, Sedalia; William Reinhoff, Springfield, W. J. Frick, Kansas City. Defense Committee: Robert E. Schlueter, St. Louis; W. A. Clark, Jefferson City; A. W. Kampschmidt, Columbia. Cancer Committee: M. P. Ravenel, Columbia. Committee on Health and Public Instruction, W. S. Allec, Olean. Committee on Vaccination, F. H. Matthews, Liberty. Councilors: First District, B. T. Quigley, Mound City; Tenth District, E. Sanborn Smith, Macon; Fourteenth District, C. T. Ryland, Lexington; Sixteenth District, E. N. Chastain, Butler; Nineteenth District, S. V. Bedford, Jefferson City; Twentieth District, A. H. Hamel, St. Louis; Twenty-fifth District, O. A. Smith, Farmington.

(Signed) DANIEL MORTON, *Chairman*
N. P. WOOD,
H. L. PORTER,
J. A. WATERMAN,
S. A. JOHNSON,
WALTER BAUMGARTEN,
C. B. CLAPP,
J. B. NORMAN.

Dr. J. B. Norman moved the report of the Nominating Committee be adopted. Seconded.

Dr. Chastain moved to amend the report by substituting for the Defense Committee the names of the members of the old committee. Seconded.

Dr. S. A. Johnson moved as a substitute that the report of the Nominating Committee be accepted with the exception of the members of the Defense Committee.

Dr. A. H. Hamel placed in nomination, Dr. H. L. Reid, of Charleston, for one of the delegates to the American Medical Association.

The President appointed as tellers Drs. Norman, McAlester, Grindon and Hamilton.

Dr. Johnson moved that we proceed with the rest of the nominations while the tellers were counting the ballots. Seconded and carried.

Dr. Chastain renewed his motion that the old members of the Defense Committee be retained for another year. Seconded and carried.

The nomination of Dr. Ravenel for Chairman of the Committee on Cancer, on motion by Dr. Jackson, was confirmed.

Dr. Boone moved that the nomination of Dr. Allee as Chairman of the Committee on Health and Public Instruction be confirmed. Seconded and carried.

The nomination of Dr. F. H. Matthews as a member of the Committee on Vaccination was confirmed.

The votes were counted and resulted as follows: For Delegates to the American Medical Association, William J. Frick, 58; W. J. Ferguson, 55; H. L. Reid, 41; Wm. Reinhoff, 35; A. W. McAlester, Jr., 1; A. H. Hamel, 1; C. E. Burford, 1. Drs. Ferguson, Frick and Reid were declared elected.

Dr. B. T. Quigley, the nominee for Councilor for the First District, withdrew his name.

Dr. C. L. Evans placed in nomination Dr. E. L. Crowson, of Pickering, for Councilor of the First District. Dr. M. A. Smith of Gallatin moved that the nomination of Dr. E. L. Crowson be confirmed. Seconded and carried.

Dr. F. W. Tuttle, of Mt. Leonard, nominated Dr. D. F. Manning, of Marshall, as Councilor for the Fourteenth District.

Dr. Grindon moved that the vote be taken by standing. Seconded and carried. The count resulted in 35 votes for Dr. Ryland, the nominee of the Nominating Committee, and nine votes for Dr. Manning. Dr. Ryland was declared elected Councilor of the Fourteenth District.

The nomination of Dr. E. N. Chastain for Councilor of the Sixteenth District was confirmed.

The nomination of Dr. S. V. Bedford for Councilor of the Nineteenth District was confirmed.

The nomination of Dr. A. H. Hamel for Councilor of the Twentieth District was confirmed.

Dr. A. H. Hamel called attention to the absence from the meeting of Dr. O. A. Smith, of Farmington, the nominee for Councilor of the Twenty-Fifth District, and reminded the House that the Constitution and By-laws declared no absentee could be elected to this office. He also pointed out that Article VIII, Section 2 of the Constitution provided that the Councilors shall hold their office until their successors are elected and installed. Hence the by-law would govern this office and the present Councilor would hold over until the next annual meeting.

The next order of business was the election of President for the ensuing year. Dr. Jackson placed in nomination the name of Dr. J. Franklin Welch, of Salisbury.

Dr. McComas moved that the nominations be closed and that the Secretary be instructed to cast the ballot of the House for Dr. Welch. Seconded and carried. A rising vote was called for, which was done, after which the Secretary cast the ballot for Dr. Welch.

Dr. Welch was escorted to the rostrum by Drs. G. W. Hawkins, of Salisbury, and Wm. Frick, of Kansas City, and Dr. Woodson presented Dr. Welch to the members. Dr. Welch, in a few words, feelingly expressed his gratitude and appreciation of the honor conferred upon him.

On motion, the House adjourned to twelve o'clock, noon, Tuesday.

Tuesday, May 9, 1916

The House of Delegates was called to order at 12 M., President Woodson in the chair. Roll call showed a quorum present.

The minutes of first and second sessions were read, corrected and approved.

Dr. Daniel Morton, Chairman of the Committee on Constitution and By-Laws, reported as follows:

The following amendments have been referred to your committee which I will present with the recommendations of the committee:

Amend Chapter V, Sec. 2, of the By-Laws by striking out the last three words in said section and inserting in lieu thereof the words, "Missouri State Medical Association at 10 a. m. on the second day of its annual meeting."

The purport of this amendment is to throw the election of the President back into the General Assembly instead of in the House of Delegates where it now rests. The committee recommends non-concurrence.

It was moved by Dr. W. S. Wallace to adopt the report of the committee. Seconded and carried.

Dr. Morton: The second amendment: Amend Chapter X of the By-Laws, "Rules of Conduct," so that it shall read:

Chapter X, Sec. 1. The Association recognizes and reiterates the principles laid down in the Principles of Medical Ethics of the American Medical Association.

Sec. 2. It is unprofessional for a physician to recognize or support in any manner any school of medicine, or any alleged method of treating disease or injury, based on exclusive dogma or sectarian system or professedly limited to the use of certain methods or designated by special titles or otherwise reputed in the profession as irregular. For a physician to consult with, exchange material benefits with, or to recommend or support a practitioner of any such system is unprofessional and constitutes gross misconduct.

Your committee recommends concurrence.

It was moved by Dr. R. Emmet Kane that the amendment be adopted. Seconded and carried.

Dr. Morton: Third amendment: Amend Chapter VII, Sec. 1, by adding the following:

Three members of the Council, elected by the Council, shall be the Executive Committee of the Council and shall constitute a quorum for the transaction of business excepting that concerning the conduct of a member when a majority of the membership of the Council shall be necessary to act; provided, the action of the Executive Committee of the Council shall be subject to the approval of the Council.

Your committee recommends concurrence.

Dr. J. C. Roone moved to adopt the report of the committee. Seconded by Dr. Kane.

Dr. Robert M. Funkhouser moved to amend by adding the President and Secretary as members of the Executive Committee with power to vote. Seconded by Dr. Johnson.

After a discussion, Dr. Funkhouser, with the permission of his second, withdrew that part of his motion which referred to the Secretary.

On vote, the amendment was lost.

The motion to adopt report of the committee then carried.

Dr. Joseph Grindon moved that the Committee on Constitution and By-Laws be discharged and that the incoming President appoint a special committee to revise the Constitution and By-Laws and present a report at the next annual meeting. Seconded and carried.

President Woodson announced the following committee to confer with the Teachers' Association on a new Constitution for the State of Missouri:

Drs. C. H. Dixon, J. A. Duncan, Wm. Rienhoff, Frank DeVilbiss and Franklin E. Murphy.

On motion adjourned to Wednesday 9 a. m.

Wednesday, May 10

The House of Delegates was called to order at 9:00 a m., by President Woodson.

The minutes of the last meeting were read and approved.

The report of the Judicial Council was read by the Chairman, Dr. A. R. McComas, as follows:

The Judicial Council submits the following report:

The Council was called to order in the small dining room of the Elms Hotel, Monday, at 12:37 p. m. The acting Chairman, Dr. A. R. McComas, presided. At roll call a majority of the Council constituting a quorum was present.

The chair appointed as auditing committee Drs. W. J. Ferguson, Franklin E. Murphy and C. L. Evans, to whom the books of the Treasurer and the books of the Secretary were submitted for examination. The Auditing Committee later reported the condition of the books of the Treasurer and of the Secretary to be in a highly commendable condition.

In accordance with the recommendation of the Defense Committee, the Council, after consulting the condition of the treasury as to whether we could afford the sum asked for by the Defense Committee, recommends that the House of Delegates appropriate \$1,500 to the Defense Fund.

The recommendation referred to the Council concerning the setting aside of an additional sum of \$1,500 in the sinking fund, to be drawn upon in case of necessity, is approved.

At the last meeting of the council the following officers were elected: Secretary-Editor, E. J. Goodwin, St. Louis; Treasurer, W. S. Allee, Olean. Executive Committee of the Council, A. R. McComas; Councilor of the Ninth District, Chairman; A. H. Hamel, Councilor of the Twentieth District, and L. W. Cape, Councilor of the Eighth District. The following were elected officers of the Council: Chairman, A. R. McComas; Secretary, E. J. Goodwin.

The Council appointed a committee of three to draft an amendment to the by-laws, which is herewith submitted, as follows:

Amend Chapter VII, Section 1, of the by-laws by striking out the word "daily" between the words "hold" and "meetings" in the first line, and strike out the sentence beginning with "It shall meet," in the fifth line and ending with "for the ensuing year," in the seventh line, and insert in lieu thereof the following sentence: "It shall hold at least one meeting during the annual meeting of the Association after the newly elected councilors have been announced by the House of Delegates, for reorganization and for outlining the work for the ensuing year," so that the amended section shall read:

Chapter VII, Section 1. The Council shall hold meetings during the annual meeting of the Association, and at such other times as necessity may require, subject to the call of the Chairman or on petition of three councilors. It shall hold at least one meeting during the annual meeting of the Association after the newly elected councilors have been announced by the House of Delegates, for reorganization and for outlining the work for the ensuing year. At this meeting it shall elect a Chairman and Secretary, and the latter shall keep a record of its proceedings. It shall, through its Chairman, make an annual report to the House of Delegates at such time as may be provided. It shall be the Executive Committee of the Association and shall act for the Association during the interval between meetings.

Dr. R. M. Funkhouser, St. Louis, moved the report be received and adopted. Seconded by Dr. J. C. Boone and carried.

Dr. J. C. Boone, Charleston, moved that the bond of the Treasurer be fixed at \$10,000 and that the premium be paid out of the treasury of the Association. Seconded by Dr. G. W. Hawkins and carried.

On motion the House of Delegates adjourned sine die.

MINUTES OF THE JUDICIAL COUNCIL

Elms Hotel—Monday, May 8, 1916

The Judicial Council was called to order in the small dining room of the Elms Hotel at 12:37 p. m. Monday, May 8, 1916, Acting Chairman Dr. A. R. McComas in the chair. At roll call the following answered present:

1st District.....	C. L. Evans, Oregon
2nd District.....	O. C. Gebhart, St. Joseph
4th District.....	J. B. Wright, Trenton
7th District.....	J. D. Smith, Shelby
9th District.....	A. R. McComas, Sturgeon
10th District.....	C. H. Dixon, Moberly
11th District.....	G. W. Hawkins, Salisbury
12th District.....	Spence Redman, Platte City
13th District.....	Franklin E. Murphy, Kansas City
14th District.....	C. T. Ryland, Lexington
15th District.....	H. S. Crawford, Harrisonville
16th District.....	E. N. Chastain, Butler
17th District.....	W. J. Ferguson, Sedalia
18th District.....	Frank DeVilbiss, Tipton
19th District.....	S. V. Bedford, Jefferson City
20th District.....	A. H. Hamel, St. Louis
23rd District.....	J. H. Timberman, Marston
24th District.....	T. W. Cotton, Van Buren
28th District.....	T. O. Klingner, Springfield
29th District.....	R. L. Wills, Ncosho

The Chair appointed as Auditing Committee Drs. W. J. Ferguson, Franklin E. Murphy and C. L. Evans, to whom the books of the Treasurer and the books of the Secretary were submitted for examination.

It was announced that the report of the Secretary-Editor contained no legislative matters and had been adopted by the House of Delegates. Dr. Hamel moved the approval of the report. Seconded and carried.

The recommendation of the Defense Committee asking for an additional appropriation of \$1,500 was taken under consideration. After a statement from the Treasurer that the finances of the Association would warrant this appropriation, Dr. Murphy moved that an appropriation of \$1,500 be made to the Defense Fund. Seconded and carried.

Dr. Hamel moved, seconded by Dr. Ferguson, that \$1,500 be added to the sinking fund. Carried.

The Chair appointed an Investigating Committee composed of Drs. Frank DeVilbiss, J. B. Wright and C. T. Ryland to hear the appeal of Dr. D. A. Seibert from Franklin County Medical Society.

A letter from Dr. Walter McNabb Miller of Columbia was read concerning the appointment of an interlocking committee to further the control of tuberculosis in the state, the committee to be formed on the basis of ten men from this Association to fifteen men from the Tuberculosis Society. After a short discussion, Dr. Hamel moved that Dr. Miller be informed of our existing Committee on Health and Public Instruction and that the Council had declined to make any further appointments. Seconded and carried.

Dr. L. C. Boisliniere, President of the St. Louis Medical Society, appeared before the Council and asked in whose jurisdiction a member would be if that member was charged by a member of another county society. The Chair ruled that the member was subject to control by his home society.

On motion, the meeting adjourned until 12 noon Tuesday.

Tuesday, May 9, 1916

The Judicial Council was called to order in the sun parlor of the Elms Hotel at 12 o'clock Tuesday by the Acting Chairman, Dr. A. R. McComas.

Dr. J. B. Wright, Chairman of the Investigating Committee, reported for the committee.

After discussion by most of the members the report of the Investigating Committee was adopted.

Dr. W. J. Ferguson reported for the Auditing Committee as follows: We, the Auditing Committee, have this day audited the books and accounts of the Secretary and of the Treasurer and find them correct. Signed, W. J. Ferguson, C. L. Evans, and Franklin E. Murphy. May 8, 1916.

Dr. C. T. Ryland moved that the report of the Auditing Committee be adopted. Seconded and carried.

Dr. W. J. Ferguson moved that Dr. A. R. McComas of Sturgeon be elected Chairman of the Judicial Council. Seconded and carried.

Dr. Ferguson moved that E. J. Goodwin be elected Secretary-Editor of the Association. Seconded and carried.

Dr. Ferguson moved that Dr. W. S. Allee of Olean be elected Treasurer of the Association for the ensuing year. Seconded by Dr. Murphy and carried.

Dr. Ferguson moved that Dr. Goodwin be elected Secretary of the Council for the ensuing year. Seconded and carried.

Dr. C. L. Evans moved that Drs. McComas, Cape, and Hamel be elected as the Executive Committee of the Council. Seconded and carried.

Dr. H. S. Crawford moved that an amendment be made to the constitution and by-laws whereby the Council will not be required to meet on the last day of the meeting, but that they can meet at any time convenient to them after the Nominating Committee has reported to the House of Delegates and the new councilors have been elected.

Dr. Frank DeVilbiss moved that the Chair appoint a committee of three to draft an amendment to be presented to the House of Delegates immediately, changing the by-laws in order that the Council can reorganize before the last day. Seconded and carried.

The Chair appointed Drs. DeVilbiss, Wright, and Murphy to draft an amendment covering the point under discussion and report to the House of Delegates this afternoon.

Reports of the councilors were handed in to be published in THE JOURNAL.

On motion the Council adjourned.

MINUTES OF THE GENERAL SESSION

Tuesday Morning, May 9, 1916

The meeting was called to order in the ball room of the Elms Hotel at 9 a. m. by the President, Dr. C. R. Woodson.

President Woodson announced as the committee to protest to the Congressmen and Senators from Missouri relative to the Works Bill, Drs. W. S. Allee, Olean; A. H. Hamel, St. Louis; T. W. Cotton, Van Buren; A. R. McComas, Sturgeon; J. D. Griffith, Kansas City; and asked that the committee at once draw up a telegram to be sent to the Senators and Representatives.

Dr. E. P. Buddy, St. Louis, read a paper on "Transitory Cardiac Dilatation from Overstrain."

Dr. Hugh D. Hamilton, Kansas City, read a paper on "Cardiac Incompetency."

Dr. George Richter, St. Louis, read a paper on "Diagnostic Respiration Tracings," illustrated.

Dr. J. Franklin Welch took the chair.

President Woodson read the President's Address.

Dr. John C. Morfit, St. Louis, spoke as follows:

"It seems to me that this survey of the state institutions from a man who has had so much intimate experience with the institutions throughout the state is so important and his recommendations are so important that we should not pass them by, inasmuch as his address brings in concrete form the matter to this Association so that it can be definitely acted on. I therefore move that a special committee of three shall be appointed by the President to draft a bill for presentation to the next session of the Legislature to govern the insane and other charity institutions of the state; that said committee shall submit a draft of the contemplated law to the county societies and the Judicial Council for suggestions and approval, and that the Judicial Council shall appropriate sufficient funds for the proper functions of this committee."

Dr. Joseph Grindon, St. Louis, moved as an amendment that President Woodson be a member of the committee. Amendment accepted by Dr. Morfit. Motion seconded and carried.

The Chairman announced a meeting of the Judicial Council to be held at once.

The papers of Drs. Buddy, Hamilton and Richter were discussed by Drs. O. H. Brown, St. Louis, John D. Seba, Bland, and N. P. Wood, Independence.

President Woodson resumed the chair.

Dr. J. J. Singer, St. Louis, read a paper on "X-Ray Interpretation of Pulmonary Tuberculosis," with lantern slides. Discussion by Dr. L. C. Boisliniere, St. Louis, and Dr. Singer in closing.

Adjourned at 12:45 p. m.

Afternoon Session—May 9, 1916

The meeting was called to order in the ball room of the Elms Hotel at 2:30 p. m. by President Woodson.

Dr. W. L. Brosius, Gallatin, read a paper on "Selective Effect of Irradiation," illustrated by lantern slides. Discussion by Dr. E. H. Skinner, Kansas City, Dr. John D. Seba, Bland, and Dr. Brosius in closing.

Dr. Francis Reder, St. Louis, read a paper on "Stomach Troubles; Their Significance." Discussion by Dr. Herman E. Pearse, Kansas City.

On motion of Dr. Herman E. Pearse, Kansas City, duly seconded and approved, the paper of H. C. Andersson, Kansas City, was advanced on the program.

Dr. John M. Bell, St. Joseph, read a paper on "Atony, the Basic Factor of Most Gastro-Intestinal Pathology." Discussed by Dr. Olney A. Ambrose, St. Louis.

Dr. H. C. Andersson, Kansas City, read a paper on "Anesthetics." Discussion by Drs. Herman E. Pearse, Kansas City, C. M. Nicholson, St. Louis, and Dr. Andersson in closing.

Dr. E. B. Knerr, Kansas City, read a paper on "Raw Starch in the Treatment of Diabetes." Discussed by Dr. L. T. Dunaway, Eldorado Springs, Dr. Knerr closing.

Dr. W. S. Allee, Olean, read a paper on "Obligations of Physicians; How May They Best Be Met?" Discussed by Drs. Herman E. Pearse, Kansas City, and C. H. Brown, Fair Play.

Dr. S. B. Scholz, Jr., St. Louis, read a paper on "The Medical Service of Life Insurance."

The paper of Dr. Walter Baumgarten, St. Louis, on "The Remote Results Following Splenectomy in Three Cases of Pernicious Anemia," was read by title.

Dr. Charles E. Hyndman, St. Louis, read a paper on "Observations in 200 Routine Fracture Cases with X-Ray Demonstration."

Dr. Ernest F. Robinson, Kansas City, read a paper on "Transplantation of Bone in Ununited Fracture."

Dr. William Rienhoff, Springfield, read a paper on "Fracture of the Skull."

Discussion of last three papers by Dr. Walter S. Sutton, Kansas City; Dr. J. J. Link, St. Louis; Dr. Gordon Beedle, Kansas City; Dr. C. B. Francisco, Kansas City; Dr. Charles Geiger, St. Joseph; Dr. R. M. Funkhouser, St. Louis; Dr. C. M. Nicholson, St. Louis; Dr. John D. Seba, Bland; Dr. Benjamin Belove, Kansas City, and Dr. Hyndman in closing.

Adjourned at 6 p. m.

Morning Session—Wednesday, May 10, 1916

The meeting was called to order in the ball room of the Elms Hotel at 9:45 a. m. by President Woodson.

Dr. R. M. Funkhouser, St. Louis, read a paper on "Relationship of Laceration of the Mouth of the Uterus to Cancer of the Uterus." Discussion by Drs. C. Lester Hall, Kansas City; T. J. Beattie, Kansas City; J. F. Welch, Salisbury; Dr. Funkhouser closing.

Dr. John G. Hayden, Kansas City, read a paper on "Sacro-Iliac Luxations." Discussion by Dr. F. D. Dickson, Kansas City, Dr. E. D. Twyman, Independence, and Dr. Hayden in closing.

Dr. L. S. Milne, Kansas City, read a paper on "Dyspituitarism; Its Relation to Physical Configuration and Health." Discussed by Dr. S. A. Johnson, Springfield; Dr. G. W. Robinson, Kansas City; Dr. C. R. Woodson; Dr. Milne closing.

Dr. W. W. Graves, St. Louis, read a copy on "Some of the Factors Tending Toward Accuracy in Clinical Diagnosis." The paper was discussed by Drs. C. H. Neilson, St. Louis; J. C. Boone, Charleston; J. J. Singer, St. Louis; G. W. Robinson, Kansas City; O. H. Brown, St. Louis; Joseph Grindon, St. Louis; R. M. Funkhouser, St. Louis, and W. W. Vandivert, Bethany, Dr. Graves closing.

Dr. J. M. Hale, Dearborn, read a paper on "Tetanus, a Report of Three Cases."

Dr. B. R. McAllaster, Carthage, read a paper on "The Importance of Early Diagnosis and Proper Treatment of Insanity."

Dr. A. L. Skoog, Kansas City, read a paper on "Spinal Cord Neoplasms," with illustrations.

Dr. P. G. Hurford, St. Louis, read a paper on "Sporadic Meningitis in Children."

Adjourned at 12:05 p. m.

Afternoon Session—Wednesday, May 10, 1916

The meeting was called to order at 2 p. m. in the ball room of the Elms Hotel by the President, Dr. C. R. Woodson.

Dr. Woodson appointed Dr. G. W. Hawkins, of Salisbury, and Dr. William Frick, of Kansas City, to escort the newly elected President, Dr. J. Franklin Welch, of Salisbury, to the chair to which he welcomed Dr. Welch.

President Welch: Gentlemen and members of the Missouri State Medical Association: I hope that I will be able to measure up at least to half of what our worthy President has indicated to you. If so, I will be entirely satisfied with my administration. I only hope and trust that my administration will be something on the order of that of my friend, Dr. Woodson of St. Joseph. I will not burden you, gentlemen, with any remarks, more than to reiterate my promise that I made to you the evening that I accepted the office. I promise you faithful service; I promise you that I will do everything in my power

to make this Association a success, and I hope and trust and pray that this will go down in our history as one of the successful years in the life of this Association. (Applause.)

Dr. Woodson: Mr. President and gentlemen of the Association: In retiring from the office of President and laying aside this high honor that you have conferred on me, I promise you that I will still be a member of the Missouri State Medical Association. (Applause.) I promise you that I will attend the meetings, and I promise you that I am ready to do the duty of the humblest citizen if there is anything, sir, at your hands that I can do, from the humblest place. In presiding over the deliberations of this great body, I must confess to you that I have not been over familiar with the usages of parliamentary law, but I have presided with a spirit of fairness, so far as I knew how, and if I made mistakes they were mistakes of the head and not of the heart. I have aimed to be fair to all and not to bring in, in a single instance, anything that would in any way be construed as selfish or personal.

I visited as many of the county societies as I could. I visited with the presidents of the various commonwealths, and, with the President of the American Medical Association, the late Dr. Rodman, presented a petition to the President of the United States asking him to insist on the preparedness of the Army Medical Corps, that the Army Medical Corps may be the equal of any army medical corps in the world, and while he did not tell us exactly what he would do, he told us that he would take it under advisement and he acted very favorably. I ask you, sir, that opportunity may be given to follow that up. (Applause.)

Dr. E. G. Mark, Kansas City, read a paper on "Carcinoma of the Prostate," written in collaboration with Dr. V. W. McCarty, of Kansas City. Discussion by Dr. C. L. Capell, Kansas City.

Dr. A. H. Thornburgh, West Plains, read a paper on "Ankylostoma Duodenale." Discussed by Drs. L. T. Dunaway, Eldorado Springs, and G. W. Hawkins, Salisbury, Dr. Thornburgh closing.

Dr. T. M. Paul, St. Joseph, read a paper on "Perinephritic Abscess."

Dr. Samuel T. Lipsitz, St. Louis, read a paper on "Systemic Blastomycosis and Coccidioidal Granuloma, with a Description of the First Reported Case of Coccidioidal Granuloma in Missouri"; illustrated.

The paper of Drs. W. L. McBride and Edwin L. Schorer, of Kansas City, on "Erythematous and Urticarial Eruptions Resulting from Sensitization to Certain Foods," was read by Dr. Schorer. Discussion by Drs. William Frick, Kansas City, and Joseph Grindon, St. Louis.

Dr. G. W. Hawkins, Salisbury, moved that further discussion be postponed until the completion of the program.

Seconded and carried.

Dr. Joseph Grindon, St. Louis, took the chair.

Dr. J. H. Thompson, Kansas City, read a paper on "Nongonorrheal Ophthalmia Neonatorum."

Dr. Harold Bailey, Springfield, read a paper on "Acute Glaucoma."

Dr. V. W. McCarty, Kansas City, read a paper on "Indications for Tonsil and Adenoid Operations in Children."

Dr. J. J. Gaines, Excelsior Springs, read a paper on "Subdermal Medication."

Dr. F. M. Vessells, Perryville, read a paper on "Vaccination in Smallpox," with illustrations.

The paper of Dr. J. Q. Cope, Lexington, on "The Need of a Real Health Officer for Rural Districts," was read by title.

Dr. J. C. Boone, Charleston, read a paper on "Rural Sanitation."

Secretary Goodwin spoke as follows:

"Mr. President, I move that a vote of thanks be extended to the members of the Clay County Medical Society for their attention and entertainment, to the pastors of the churches for opening their pulpits for health lectures, to Mr. Emmke, manager of the Elms, and to the Snapp Hotel."

Seconded by Dr. Grindon. Unanimously carried.

Dr. Joseph Grindon, St. Louis: Mr. President, I think I voice the feeling not only of those who are present in this room now, but of all the members of the Missouri State Medical Association who have attended this meeting at Excelsior Springs, when I say that take it all in all it has been one of the most pleasant and fruitful meetings of this Association that we have ever attended. The beauty of the surrounding scenery, the magnificent weather with which we have been favored, and the spirit of harmony among the members, the quality of the scientific contributions, all have been such as to make the occasion most enjoyable to us, and I move that a vote of thanks be tendered by the Association to the retiring officers.

Seconded. Unanimously carried.

President Welch: We now adjourn, to meet in Springfield in 1917. (Applause.)

MINUTES OF THE EIGHTH ANNUAL MEETING OF THE MISSOURI SOCIETY OF MEDICAL SECRETARIES

Excelsior Springs—May 8, 1916

The meeting was called to order at 1:30 p. m. in the Elms Hotel by the President, Dr. H. S. Crawford, of Harrisonville.

The courtesy of the floor was extended to the President of the State Association, Dr. C. R. Woodson, who responded in brief as follows: I think one of the most important things connected with healthful working of the county medical society is the having of a good, enthusiastic secretary; a man who can write so we can read; a man who is ethical; a man who is familiar with parliamentary usages; a man who has tact in handling men, and a man who can effectively solicit members to contribute papers. The man who is secretary ought to be a good collector; one who can approach a fellow member and say: "My object in coming to you at this time is to get your county society dues," and say it without making an apology. There ought to be a spirit of rivalry in every county society to be a fully paid up society and on the honor roll. Some societies don't meet regularly and are not as successful as a society as they ought to be, but they hold the record so far as keeping their dues paid up. I am glad to see the secretaries holding these meetings. They bring about an opportunity for the exchange of ideas which cannot but be beneficial. The most important factor is the secretary. If he makes good he keeps efficiency in the foreground, he familiarizes himself with the duties of secretary, the usages governing parliamentary bodies and makes himself a useful man. Let me insist on the importance of attending the secretaries' meetings. The State Association owes much gratitude to the county society secretaries for the present prosperous condition of its affairs.

The Secretary, Dr. T. O. Klingner, Springfield, read the minutes of the previous meeting held at St. Joseph May 10, 1915. It was moved and seconded that the minutes be approved as read. Carried.

The next on the program was to have been a paper entitled "The Duties of a County Secretary," by Dr. G. W. Whiteley, Albany, Secretary of Gentry County Medical Society, but in the absence of Dr. Whiteley, Dr. M. L. Peters, Cameron, Secretary of Clinton County Medical Society, opened a discussion on the

subject of "Medical Preparedness." He was followed by Drs. R. E. Castelow, Kansas City; E. J. Butzke, Mountain Grove; O. B. Hall, Warrensburg; T. J. Downing, New London.

Dr. J. J. Gaines, Secretary of the Clay County Medical Society, Excelsior Springs, opened the discussion on the general topic, "How Can the Attendance at the County Medical Society Meetings be Maintained?" Others who spoke on this topic were Drs. R. E. Castelow, Kansas City; J. Q. Cope, Lexington; C. H. Dixon, Moberly; Leslie Randall, Licking; F. W. Tuttle, Mt. Leonard, and J. H. Timberman, Marston.

Officers for the ensuing year were elected as follows: President, Dr. O. B. Hall, Warrensburg; First Vice-President, Dr. J. J. Gaines, Excelsior Springs; Second Vice-President, Dr. J. D. Smith, Gallatin; Secretary-Treasurer, Dr. J. Q. Cope, Lexington; Executive Committee, Dr. T. O. Klingner, Springfield; Dr. R. E. Castelow, Kansas City, and Dr. F. W. Tuttle, Mt. Leonard.

On motion adjourned sine die.

Memorial Meeting—Tuesday Evening, May 9, 1916

Called to order in the parlors of the Elms Hotel at 9 p. m. by President Woodson.

Speeches commemorative of the late Drs. Frank J. Lutz and Walter B. Dorsett and in general of the members of the Association deceased during the year were made by Dr. L. C. Boisliniere, St. Louis; Dr. A. W. McAlester, Columbia; Dr. C. Lester Hall, Kansas City, and Dr. Jabez N. Jackson, Kansas City.

Dr. Franklin E. Murphy, Kansas City, spoke of the lives of Dr. Bertan H. Wheeler, Kansas City, and Dr. Jesse E. Hunt, Kansas City.

President Woodson spoke in memory of Dr. T. E. Potter, of St. Joseph, and of Dr. Stephen F. Carpenter, of St. Joseph.

Dr. J. F. Robinson, Nevada, spoke in memory of Dr. T. E. Potter.

Dr. John D. Seba, Bland, and Dr. F. A. Howard of Slater spoke in honor of Dr. Lutz and Dr. Dorsett.

After the speaking Dr. S. A. Johnson, Chairman of the Committee on Necrology, read the names of the members who had died since the last annual meeting.

Dr. H. M. Clark of Platte City asked that the members rise in honor of all members of the Association who had died during the year, which was done.

Adjourned at 10 p. m.

PUBLIC HEALTH SUNDAY

The public meeting of the Association again took the form of lectures in the churches of Excelsior Springs by members of our Association. Five churches invited speakers to deliver addresses to their congregations on Sunday, May 7. About 1,700 people attended the lectures. Following is the list of churches and speakers:

Presbyterian Church, 11 a. m., G. H. Hoxie, M.D., "Keeping the Body Under."

Presbyterian Church, 8 p. m., Mazyck P. Ravenel, M.D., "Prevention Better Than Cure."

First Baptist Church, 11 a. m., William F. Kuhn, M.D., "The Relation of Heredity to Health."

First Baptist Church, 8 p. m., Jabez N. Jackson, M.D., "The Preservation of Health."

Christian Church, 8 p. m., C. R. Woodson, M.D., "Protection of the Nervous System of the Young."

Methodist Church, 11 a. m., J. J. Singer, M.D., "The Tuberculosis Problem."

Methodist Church, 8 p. m., N. P. Wood, M.D., "Better Living."

Christian Union Church, 8 p. m., T. F. Lockwood, M.D., "Maternal Impressions and Other Health Items the Public Should Know."

REPORT OF THE SECRETARY-EDITOR

The membership of the Association on May 1, 1915, was 3,189. During the past year there have been the following changes: 34 died; 27 resigned; 10 transferred to other states; 178 dropped for non-payment of dues; 2 expelled; making a total of 251. There have been added 193 new members and 5 reinstated. The paid-up memberships on May 1, 1916, was 2,341 and 796 delinquents, a total of 3,137.

Ad Interim Appointments

Since the last meeting of the Association the following changes have occurred in the officers and committees: Dr. Frank J. Lutz, of St. Louis, a former President of the Association, Councilor of the 20th District and Chairman of the Judicial Council, died March 24, 1916. The President appointed Dr. A. H. Hamel, of St. Louis, to fill the vacancy as Councilor of the 20th District, and Dr. A. R. McComas of Sturgeon, Chairman of the Judicial Council.

Dr. T. T. O'Dell of Ellington, Councilor of the 25th District, moved from the district, which vacancy the President filled by appointing Dr. O. A. Smith of Farmington.

Dr. Walter B. Dorsett, of St. Louis, a former President and a member of the Defense Committee, died on July 27, 1915. His place on the Defense Committee was filled by the appointment of Dr. Charles E. Hyndman of St. Louis.

The terms of the Councilors of the following districts expire this year: 1st District, Dr. C. L. Evans, Oregon. 10th District, Dr. C. H. Dixon, Moberly. 14th District, Dr. C. T. Ryland, Lexington. 16th District, Dr. E. N. Chastain, Butler. 19th District, Dr. S. V. Bedford, Jefferson City. 25th District, Dr. O. A. Smith, Farmington.

During the year two component societies were organized and charters were issued to them, namely, Dade and Perry. This leaves twelve counties unorganized, namely, Andrew, Worth, Lincoln, Warren, St. Clair, Bollinger, Ripley, Washington, Douglas, Ozark, Oregon, Dallas.

During the year I have visited seventeen county societies, the Councilor of the district usually being present and on two occasions in company with the President of the Association.

The Secretary's office conducts the correspondence and keeps the records of the several committees requiring this service, and otherwise is conducting the affairs of the Association so that complete records are available for all its activities.

The suit of the Wine of Cardui Company against the American Medical Association has laid some extra labor on the office by requesting us to investigate the circumstances under which certain affidavits were obtained from women in Missouri and nearby towns in Illinois. We found that a representative of the Wine of Cardui Company took several women on an excursion to St. Louis, paid all their expenses and \$1.50 in cash for the day's outing and obtained affidavits, the contents of which were not very clear to the women, but proved to be very favorable to the healing qualities of Wine of Cardui. The women nearly all "felt better while taking the medicine," which is not to be doubted when we remember the amount of alcohol in the preparation. In parts of Missouri I found the affidavits were more or less misleading, and in some instances the physicians who had been attending the women were even falsely quoted; all of which was reported to the American Medical Association.

The reports of the committees have been printed, as far as possible, and sent to the delegates in advance of the meeting, so that prompt action can be taken during the session of the House.

As in the past and in obedience to the order of the House I have taken charge of the exhibits and from the income derived will defray the expenses of the

meeting. The exhibits have been placed on the veranda of the hotel, where they will not interfere with scientific proceedings, but will be in close proximity to the hall.

For the second time in the history of the Association we closed the fiscal year with a good balance in the treasury. You will recall that last year we had a comfortable balance in the treasury and established a sinking fund of \$1,000. It is a great pleasure to report that this year finds us again in that highly desirable state of opulence. This condition can be maintained and a gratifying addition made to the sinking fund annually by giving earnest and harmonious support to the various activities of the Association and especially by loyally supporting THE JOURNAL, and the prompt payment of dues. The first obligation a member assumes when admitted to our organization is the prompt payment of his annual dues in the component society. I would impress on the members the importance of fulfilling this duty because the right to share in the benefits and privileges that good standing confers depends on the prompt discharge of this obligation.

The Wright County Medical Society has proposed that the Nominating Committee should be appointed one year in advance of the session so that a longer time might be devoted to the consideration and selection of nominations. Such a change would require an amendment of the by-laws, but the alternative suggestion was made that the Nominating Committee should propose a President-elect at this meeting which would accomplish practically the same object so far as the election of President is concerned.

Respectfully submitted,

E. J. GOODWIN, *Secretary.*

REPORT OF THE TREASURER

I am proud of the report that I am about to present for your consideration because of the fact that it is the best financial statement that I have been able to submit during my long years of service as your Treasurer. I am sure all will be interested to know that we are growing financially, for it carries with it the bearings of success in all other lines of our work. The report is as follows:

GENERAL FUND

Receipts

1916	
To balance from last year.....	\$5,678.22
To cash from advertising.....	4,396.71
To County Society Assessments..	8,572.00
To interest on daily balance.....	82.98
	<hr/>
	\$18,729.91

Disbursements

By properly executed vouchers...	<hr/>
	\$12,034.99
May 1, 1916, balance on hand..	<hr/>
	\$6,694.92

DEFENSE FUND

Receipts

To balance from last year.....	\$2,878.08
To interest on daily balance.....	68.95
	<hr/>
	\$2,947.03

Disbursements

By order of Defense Committee..	<hr/>
	\$714.97
May 1, balance on hand.....	<hr/>
	\$2,232.06

SINKING FUND

Receipts

To balance from last year.....	\$1,000.00
To interest on daily balance.....	28.91
	<hr/>
	\$1,028.91

May 1, balance on hand.....	<hr/>
	\$1,028.91
Grand total of all funds on hand	<hr/>
	\$9,955.89

Respectfully submitted,

(Signed) J. FRANKLIN WELCH, M.D., *Treasurer.*

REPORT OF THE COMMITTEE ON SCIENTIFIC WORK

The Committee on Scientific Work has arranged, as required by the by-laws, for the election of all officers including the President in the House of Delegates and limiting the session of the House to the first day of the meeting; therefore no scientific work has been scheduled for Monday, May 8.

The scientific program contains forty-three papers, including the President's address, distributed as follows: From St. Louis, 14 papers; from Kansas City, 12 papers; from St. Joseph, 4; from the state at large, 12. There are 20 papers on general medical subjects; 13 on general surgery; 3 on eye, ear, nose and throat topics; 4 on diseases of the nervous system; 2 on children's diseases. The Council on Health and Public Instruction having arranged for lectures on public health topics to be delivered by our members in the churches on Sunday, May 7, it was decided to again omit the public session of the Association at night. We would, however, suggest and urge that in view of the death toll of ex-Presidents during the past year, namely, Dr. Frank J. Lutz, Chairman of the Judicial Council and President in 1887, and Dr. W. B. Dorsett, President in 1899, that a memorial session be held on Tuesday evening, May 9, so that proper and official tribute may be paid to the memory and services of our departed members and ex-Presidents.

The suggestion has often been made and the sentiment is growing among our members that men of note and special professional attainments be invited to contribute to our program. Your committee would suggest, therefore, that a surgeon and an internist of national prominence be invited to address us at our next annual meeting.

The committee desires to extend their appreciation to the members for their offers to contribute papers. Not all could be placed on the program, as the number was necessarily limited. We also desire to say regretfully that many papers offered by county societies appointing a member to represent them on the program were not included because up to the time of completing the program the members failed to give the title of the papers.

The committee has the assurance that every essayist will read his paper at the time scheduled. If the sessions are opened on time, the essayist ready and the discussion prompt, we feel that all papers can be read without prolonging the meeting.

E. J. GOODWIN, *Chairman*;
A. H. HAMEL,
W. J. FRICK,

The Committee.

REPORT OF THE DEFENSE COMMITTEE

During the year since our last meeting the committee has had official connection with forty-five cases, nine old and thirty-six new. Of these three were only threatened suits. Fifteen cases terminated in favor of the defendant. In one case a verdict against the defendant was sustained by the court of appeals. Twenty-five cases are still pending.

The total number would certainly be appreciably larger if every member from whom damages for alleged malpractice were demanded would confer with the committee. We have no other means of knowing the total number of such suits against members of the Association.

In some of the cases the members were given all the aid provided in our by-laws. Those who are protected by insurance do not as a rule require any contribution toward defraying the expenses of the suit.

The committee has not withheld its assistance from any member, whether or not he had complied with the by-laws. There was, however, none of the fund expended for delinquent members.

Malpractice suits are far more easily prevented than defended in court. When a suit is threatened every effort should be made to keep it from getting into court. During the period which precedes the filing of a suit, the aid of this committee is of the greatest importance. During this time the Councilor of the district can give assistance which is far superior to legal advice from the best lawyers. It is astonishing how few of our members take advantage of this aid.

Many plaintiffs are incited by a medical advisor, be he regular or irregular, member or non-member of our organization. But the doctor who has, intentionally or otherwise, encouraged a demand for damages, can and will often see his ridiculous position when it is properly represented to him and when the situation is made clear to him, he will usually do all in his power to stop an action as the result of his indiscreet or imprudent statement or gesture.

In several instances we have seen disastrous consequences follow the defense of malpractice suits without the aid of the officers of the Association. Only too often the aid of the committee is sought after a case is badly complicated through poor advice and injudicious action. When the committee is notified on the eve of the trial, the affairs have usually taken such shape that nothing can be done to change the outcome. The members ought not to expect miracles, though nothing short of this is sometimes demanded.

By its experience, the committee is in a position to know those lawyers who are best fitted to handle these cases, and has not hesitated to express its views in this regard whenever it was necessary. In fact, we have insisted on the dismissal of one attorney by an insurance company. This was only accomplished when we refused to aid in any case defended by this man. Thus it can be readily seen that this committee, backed by our great organization and the principles for which it stands, can exert a powerful influence for the good of the profession and the public.

Every one who bungles the defense of a malpractice suit is a menace to others. The thorough self-confidence which some men display weakens their defense. In no other matter is the sane and sober advice of others of such paramount importance. Each member should report to the Association every demand made on him for alleged malpractice. Then we would all learn more about the subject, the efficiency of the committee would be enhanced to a considerable degree, and the profession at large would derive the benefit. The contribution toward defraying the expenses of a suit is a small item when compared to the other ways in which we can assist. We have, for good reasons, advised compromise in some instances. We believe that some claims for malpractice are perfectly justified, however few these may be.

For the lack of time and space, the committee cannot enumerate all the causative factors which are at work in malpractice suits. The most important, however, is the attitude of the doctor toward the patient and his relatives. By tact and absolutely honest and open dealings the physician should hold the respect of those with whom he has professional dealings. It is surprising what indignities will be tolerated by some doctors before they withdraw from a case of illness. Some will make an effort to remain in attendance after they are discharged. Some will continue to call on a patient despite disrespectful remarks and insinuations. This class of physicians forms a large part of those who must defend their treatment in court.

The steadily increasing number of suits of this kind gives evidence to the fact that the mass of the profession knows little or nothing concerning the actual causes which have brought them about. When the doctors do their share in this regard there will be less need of settling the differences in court. The

committee recommends to all county societies to discuss the subject liberally, to study the real causes of malpractice suits and to give free publicity thereto. Only by such methods can permanent progress be attained.

Since the meeting of 1914, nothing has been added to the defense fund. Therefore, we respectfully request that \$1,500 be added to the fund at this meeting.

Respectfully submitted,

R. E. SCHLUETER, *Chairman*,
R. EMMET KANE,
C. E. HYNDMAN,
The Committee.

REPORT OF THE COUNCIL ON HEALTH AND PUBLIC INSTRUCTION

This being a non-legislative year, the work of the Council on Health and Public Instruction has not been exacting. Health lectures have been conducted in various parts of the state under the auspices of county medical societies and speakers drawn from our members were supplied whenever requested.

The principal event was a nation-wide Baby Welfare Week. Early in the year Mrs. W. R. Chivvis, President of the Missouri Federation of Women's Clubs, requested the Association to cooperate in conducting this campaign and your Council readily conceded that it was a proper step for us to take. All component societies were requested to cooperate with the Women's Clubs in their counties and the members of the county societies generously gave their time and service in the campaign. The Children's Bureau of the Department of Labor, at Washington, also assisted in this work and sent large quantities of literature to be distributed at the meetings.

The lectures at the State Fair were scheduled as usual and the members who were asked to speak were on hand at the appointed time.

The churches in Excelsior Springs opened their pulpits for Sunday, May 7, to members of our Association and eight speakers have volunteered to deliver lectures to the congregations.

The old question of political control of state hospitals was renewed this year when Dr. George R. Thompson, Superintendent of State Hospital Number 2, at St. Joseph, was removed through political influence. The time seems ripe for our Association to grapple with this problem and make a strong effort to obtain legislative action at the coming session of the General Assembly for the removal of eleemosynary institutions from political domination.

Our assistance was enlisted by health workers in the state to obtain the passage of the urgent deficiency bill in the Congress, so that the U. S. Public Health Service would be given \$100,000 to continue its work in rural sanitation. We petitioned our members of the Senate and House of Representatives to favor this necessary legislation but the money was not allowed.

The chiropractor is rampant amongst us and convictions seem difficult to obtain. Your Council has endeavored to assist the county societies in prosecuting these violators of the law but only to the extent of advising them how to proceed. The appeals for financial assistance have necessarily been in vain because the Council had no appropriation upon which to draw.

The Council has sent circulars to county secretaries asking for information concerning the attitude of candidates toward the medical profession and public health laws, and would ask that the members give attention to these circular letters so that we can form an estimate of what candidates ought to receive support of the medical profession.

A. R. McCOMAS, *Chairman*,
R. M. FUNKHOUSER,
A. W. McALESTER, JR.,
The Committee.

REPORT OF THE PUBLICATION COMMITTEE

It is with a great deal of personal gratification that we submit to you our annual report for the fiscal year just closed. THE JOURNAL has made great gains in scientific reading matter and also in the amount of advertising. All this has been accomplished without any sacrifice in the standard and character of the advertising material. THE JOURNAL now stands among the front rank of medical journals of its class and is being maintained, not only without expense to the Association, but we are producing a revenue as the following financial statement will show:

By advertising account May 1, 1915, to April 30, 1916..	\$4,895.45	
To printing of twelve issues, May, 1915, to April, 1916	\$2,979.26	
To freight and hauling.....	212.80	
To postage	383.69	
To miscellaneous expense on Journal.....	31.33	3,607.08
Net gain		\$1,288.37

THE JOURNAL contained 574 pages of reading matter in Volume 12 (January to December, 1915), an average of 48 pages of pure reading matter in each issue. There were 103 original articles and 80 editorials, an average of 9.6 original articles and 6.8 editorials in each issue, and 133 reports of society proceedings, as well as miscellaneous matter.

W. H. BREUER, *Chairman*,
S. P. CHILD,
M. A. BLISS,

The Committee.

REPORT OF COUNCIL ON MEDICAL EDUCATION

I have the honor to submit the Report of the Council on Medical Education.

As will be seen from Table I, three medical schools are now recognized by the State Board of Health. In addition to this the University of Missouri, which prepares men for the first two years of medical college work, must be included. There are two other so-called medical schools not recognized by the Board, and besides these there are three "irregular" schools. If one can derive any satisfaction from the steadily diminishing number of regular schools in the state, this should be modified by reflecting that more students are being prepared in the State of Missouri for irregular medical practice than for regular medical practice of all grades.

Table I also calls attention to the distribution of bodies under the Anatomical Act. Imperfect scientific preparation of students of irregular medicine appears plainly from these figures. The question may with justice be asked, why schools not recognized by the State Board of Health should share in the distribution of bodies, the supply of which is none too large for the legitimate needs of the schools in good standing?

The other tables, copied from the "State Board Number" of the *Journal of the American Medical Association*, April 8, 1916, speak for themselves. It may be worth while, however, to call attention again, as this Council has done in previous reports, to the great waste of time and money committed by students in low grade medical colleges. It would seem that the danger of failing before state boards, in certain schools, would be so great as to discourage students from entering such schools. Up to the present time no adequate means seems to have been devised by which prospective students can be enlightened as to the situation.

GEORGE DOCK, *Chairman.*

TABLE 1
COLLEGES RECOGNIZED BY THE MISSOURI STATE BOARD OF HEALTH

	No. of Students	No. of Bodies
Washington University	97	43*
Saint Louis University.....	272	74*
National University of Arts and Sciences.....	182	43*
University of Missouri, Department of Medi- cine (two years only).....	93	10
SCHOOLS NOT RECOGNIZED BY THE STATE BOARD OF HEALTH		
Eclectic Medical University, Kansas City.....	80	3
Southwest School of Medicine and Hospital, Kansas City	18	6
IRREGULAR SCHOOLS		
Central College of Osteopathy, Kansas City..	61	7
Weltmer School of Suggestive Therapeutics, Nevada	15	2
American School of Osteopathy, Kirksville...	689	56

* Dental school included, as to bodies; but dental students not included in the figures.

TABLE 2
RESULTS OF EXAMINATIONS BEFORE STATE BOARDS DURING 1915

	Total Exam- ined	Passed	Failed	Percentage of Failures	No. of States Examining
Washington University.....	35	35	0	0.0	7
St. Louis University.....	55	52	3	5.5	16
National University of Arts and Sciences	47	44	3	6.4	4
St. Louis College of Physicians and Surgeons*	32	22	10	31.2	9
Eclectic Medical University, Kansas City	23	20	3	13.0	3
Hahnemann Medical College, Kansas City	6	4	2	33.3	3

* Extinct.

TABLE 3
STATUS OF MEDICAL SCHOOLS BEFORE STATE LICENSING BOARD

	No. of State Boards Apparently Giving Full Recognition	No. of State Boards Reporting College Not Fully Recognized	Percentage of State Boards Granting Full Recognition
Washington University.....	51	..	100
St. Louis University.....	39	12	77
National University of Arts and Sciences	17	34	33
Eclectic Medical University, Kansas City	19	32	37

TABLE 4
RESULTS OF EXAMINATIONS IN HOME STATES AND ELSEWHERE

	Total Examined	Results in Home States			Results in Other States		
		Passed	Failed	% Failed	Passed	Failed	% Failed
Washington University.....	30	25	0	0.0	5	0	0.0
St. Louis University.....	49	31	0	0.0	17	1	5.6
National University of Arts and Sciences	46	40	1	2.4	3	2	40.0
St. Louis College of Physicians and Surgeons*	22	11	4	26.7	5	2	28.6
Eclectic Medical University, Kansas City**	19	18	1	5.3
Hahnemann Medical College, Kansas City	5	2	1	33.3	1	1	50.0

* Extinct.

** Not recognized by Missouri State Board of Health.

REPORT OF COMMITTEE ON
NECROLOGY

Your Committee on Necrology has endeavored to record the deaths of all reputable physicians who died during the past year and we present herewith what we realize is an incomplete report. We believe that a record of the deaths of our members and other legally qualified physicians of good professional repute should be made a part of our records and preserved in the archives of our Association. In order to accomplish this object it is necessary to have the earnest cooperation of the members who were acquainted with the deceased and who would supply the committee with the necessary data so that the report of the committee would annually take that place in the records of the Association which its importance deserves.

We call attention to the death of two former Presidents of the Association, whose devotion to the organization and wisdom in guiding its affairs made them outstanding figures in our Association, namely, Dr. Frank J. Lutz and Dr. Walter B. Dorsett.

S. A. JOHNSON, *Chairman*;
M. A. SMITH,
A. H. VANDIVERT.
The Committee.

Dr. John Ashley

Dr. John Ashley of Bloomfield died at his home, January 3, 1916, after suffering for several years from cancer of the rectum.

John J. Bazan, M.D.

Dr. John J. Bazan, a graduate of Central Medical College, St. Joseph, 1902, died in his office at St. Joseph, August 27, 1915, aged 44.

G. P. S. Brown, M.D.

Dr. G. P. S. Brown, a graduate of the St. Louis College of Physicians and Surgeons, 1890, died at his home in Nixa, Mo., after a lingering illness, from gallstones, August 27, 1915, aged 62 years.

Stephen F. Carpenter, M.D.

Dr. Stephen F. Carpenter, a graduate of the University of Louisville Medical Department, 1871, died at his home in St. Joseph, February 15, 1916, from apoplexy, aged 70.

James N. Coons, M.D.

Dr. James N. Coons, a graduate of the medical department of Iowa State University, 1857, and of the St. Louis Medical College, 1868, died at his home in Palmyra, Mo., Nov. 9, 1915, aged 86.

Walter Blackburn Dorsett, M.D.

Dr. Walter B. Dorsett, and ex-President of the Missouri State Medical Association and one of the most widely known physicians in Missouri, died at his home in St. Louis, July 27, 1915, after a lingering illness dating from early in the year 1914.

David F. Dumbauld, M.D.

Dr. D. F. Dumbauld, a graduate of Columbus Medical College, 1883, after a lingering illness, died at his home in Carl Junction, Aug. 27, 1915, aged 54.

Mathew G. Guhman, M.D.

Dr. Mathew G. Guhman died in St. Louis, March 10, 1916, of nephritis, after a long illness.

Henry O. Hanawalt, M.D.

Dr. Henry O. Hanawalt of Kansas City, Mo., born July 29, 1844, died June 5, 1915; was professor of physiology and neurology in the Kansas City Medical College; President of Jackson County Medical Society in 1896-1897.

Wellington S. Hopkins, M.D.

Dr. W. S. Hopkins, a graduate of the Missouri Medical College, 1886, died from pneumonia in the Springfield Hospital, Jan. 12, 1916, aged 53. At the time of his death he was President of the Greene County Medical Society.

Meredith D. Jones, M.D.

Dr. Meredith D. Jones, St. Louis, a graduate of Jefferson Medical College, Philadelphia, 1870, died from heart disease at Chambersburg, Pa., Jan. 11, 1916, aged 65.

W. Emil Klokke, M.D.

Dr. W. Emil Klokke of St. Louis, a graduate of the University of Illinois College of Medicine, 1899, died at Tampa, Fla., while on a business trip, August 8, aged 39.

Frank J. Lutz, M.D.

Dr. Frank J. Lutz, St. Louis, a former President of the Missouri State Medical Association, Chairman of the Judicial Council and Councilor for the Twentieth District, and a member of the Board of Trustees of the American Medical Association, died at his home in St. Louis, March 24, 1916, from endocarditis and aortic aneurysm.

Dr. Lutz graduated from the St. Louis Medical College in 1876, and practiced in St. Louis during his entire professional career.

Albert Merrell, M.D.

Dr. Albert Merrell, formerly a member of the St. Louis Board of Health, and president of the St. Louis Pure Milk Commission during the Louisiana Purchase Exposition, died at Wilmington, Del., from cerebral hemorrhage, July 21, 1915.

Sherman Miller, M.D.

Dr. Sherman Miller, of Mayesville, a graduate of the St. Louis College of Physicians and Surgeons, 1893, died Nov. 11, 1915, aged 49 years.

Elmer Lincoln Mitchell, M.D.

Dr. Elmer L. Mitchell, a graduate of Keokuk College of Physicians and Surgeons, 1894, died at his home in Lancaster, Mo., Sept. 11, 1915, aged 51.

James Henderson Moffit, M.D.

Dr. James Henderson Moffit, born in Henderson County, Ky., June 10, 1848, died at his home in Redford, Mo., Jan. 7, 1916, aged 68.

Harry James Mustard, M.D.

Dr. Harry James Mustard, an intern at the City Hospital, St. Louis, died at the institution May 14, 1915, following an operation, aged 30. He was a graduate of Rush Medical College, 1913.

Richard H. McBaine, M.D.

Born in Columbia, Mo., Oct. 11, 1883; died Oct. 17, 1915, at the St. Johns Hospital, St. Louis, after a lingering illness.

William A. McCallister, M.D.

Dr. William A. McCallister, a pioneer physician of Centralia, Mo., died at his home, Feb. 16, 1916, after a prolonged illness.

George Ernest McNeil, M.D.

Dr. George E. McNeil was graduated by the Beaumont Hospital Medical College, St. Louis, 1890, with honors, and soon thereafter was appointed house surgeon at the M. K. & T. Hospital, Sedalia, which position he held at the time of his death, August 15, aged 51.

John R. Papin, M.D.

Dr. John R. Papin, a graduate of St. Louis University Medical School, died at St. John's Hospital, Nov. 11, 1915, aged 58.

Alfred Pieronnet, M.D.

Dr. Alfred Pieronnet of Cape Girardeau, a retired practitioner, died at his home May 26, 1915, aged 95.

James Sanford Preston, M.D.

Dr. James Sanford Preston of Armstrong, Mo., died at his home March 2, 1916, after a long illness, aged 73 years.

John P. Ralston, M.D.

Dr. John P. Ralston, Springfield, a graduate of the American Medical College, St. Louis, 1880, died Jan. 30, 1916, aged 65.

Horatio N. Spencer, M.D.

Dr. Horatio N. Spencer of St. Louis, one of the oldest practitioners in that city, a graduate of the College of Physicians and Surgeons, Columbia University, New York, 1869, died at Atlantic City, Aug. 8, 1915, aged 74.

Stephen H. Steele, M.D.

Dr. Stephen H. Steele, born Oct. 29, 1830, in Lauderdale County, Tenn., died at Caruthersville, Mo., Feb. 17, 1916, at the age of 85 years.

George W. Tarlton, M.D.

Dr. George W. Tarlton, a graduate of St. Louis Medical College, 1881, died in Cape Girardeau, Dec. 13, 1915, aged 66, of interstitial nephritis and mitral regurgitation.

Francis A. Temm, M.D.

Dr. F. A. Temm, a graduate of the Missouri Medical College, now Washington University Medical School, died at his home, June 26, 1915, from heart disease, aged 48. He was an instructor in the Medical Department of St. Louis University.

Alfred W. Titterington, M.D.

Dr. Alfred W. Titterington, of Richland, Mo., died at his home from a malignant growth of the liver, Jan. 3, 1916, aged 81.

MEMBERS REGISTERED AT THE FIFTY-NINTH ANNUAL MEETING, EXCELSIOR SPRINGS, MAY 8, 9, 10, 1916

Abney, W. L., Blackwater
Adcock, D. C., Warrensburg
Adcock, J. A. B., Jefferson City
Albers, Edward A., Sedalia
Allee, W. L., Eldon
Allee, W. S., Olean
Ambrose, O. A., St. Louis
Amerman, I. W., Nevada
Anderson, A. L., Springfield
Andersson, H. C., Kansas City
Asher, J. A., Trenton
Atkins, C., Independence
Austin, M. B., Brunswick
Baird, J. E., Excelsior Springs
Bailey, Harold, Springfield
Ball, J. E., Richmond
Ballard, E. S., St. Joseph
Barnhart, Don A., Huntsville
Baumgarten, Walter, St. Louis
Beard, Frank G., St. Joseph
Beck, Leroy, St. Joseph
Bedford, S. V., Jefferson City
Beedle, Gordon A., Kansas City
Bell, John M., St. Joseph

- Bellows, G. E., Kansas City
 Belove, Benjamin, Kansas City
 Berrey, Robert W., Mexico
 Blair, Edward G., Kansas City
 Bobbitt, A. N., Joplin
 Bogart, T. N., Excelsior Springs
 Boisliniere, Louis C., St. Louis
 Bolton, J. W., Warrensburg
 Boone, John C., Charleston
 Boulware, T. C., Butler
 Bowers, H. E., Galt
 Bradley, W. E., Ethel
 Bradley, William P., Nevada
 Braeckline, W. A., Higginsville
 Brosius, W. L., Gallatin
 Brown, C. A., Kansas City
 Brown, Orville H., St. Louis
 Brown, Tinsley, Hamilton
 Brunner, E. E., Carrollton
 Buchanan, James M., Richmond
 Buddy, Edward P., St. Louis
 Burford, C. E., St. Louis
 Burgess, J. W., Belle
 Burnett, S. Grover, Kansas City
 Burrill, C. W., Kansas City
 Butler, O. W., Kansas City
 Butzke, E. J., Mountain Grove
 Byrne, John I., St. Joseph
 Cater, R. M., Marceline
 Callaway, L. M., Kansas City
 Capell, Clarence, Kansas City
 Carryer, Carl H., Unionville
 Castle, O. L., Kansas City
 Caulk, John R., St. Louis
 Chastain, C. H., Weston
 Chastain, E. N., Butler
 Chaffin, Elizabeth Barnes, Stanberry
 Chaffin, W. L., Breckenridge
 Chambers, J. Q., Kansas City
 Chalkley, A. J., Lexington
 Clapp, C. B., Moberly
 Clark, H. J., Excelsior Springs
 Clark, H. M., Platte City
 Clark, John F., Rayville
 Coffey, G. C., Linkville
 Coffey, W. H., Kansas City
 Cook, Emmett F., St. Joseph
 Cook, K. F., Carrollton
 Cook, T. B., Rayville
 Cope, J. Q., Lexington
 Cordier, A. H., Kansas City
 Cotton, T. W., Van Buren
 Craig, T. B. M., Nevada
 Craven, Y. D., Excelsior Springs
 Crawford, H. S., Harrisonville
 Crews, R. N., Fulton
 Crockett, James A., Stanberry
 Crowson, Eugene L., Pickering
 Cummings, C. C., Joplin
 Davis, C. B., Nevada
 Davis, W. L., Polo
 Dean, John McH., St. Louis
 Derfler, M. E., Novinger
 DeVilbiss, E. F., Kansas City
 DeVilbiss, Frank, Tipton
 Dickson, F. D., Kansas City
 Dinwiddie, T. H., Higbee
 Dixon, C. H., Moberly
 Donaldson, Clyde, Kansas City
 Doolin, L. R., Gallatin
 Dorsett, E. Lee, St. Louis
 Dowell, George S., Braymer
 Downing, T. J., New London
 Droll, G. A., Kansas City
 Dryden, U. C., Purdin
 Duncan, J. H., St. Louis
 Dunaway, L. T., Eldorado Springs
 Dyer, D. P., Sedalia
 Edgell, O. K., Eolia
 Elam, W. T., St. Joseph
 Elder, A. R., Harrisonville
 Epler, J. W., Kearney
 Estill, W. G., Lawson
 Eubank, A. E., Kansas City
 Evans, C. L., Oregon
 Evans, E. E., New Florence
 Fassett, Charles Wood, Kansas City
 Ferguson, J. W., St. Joseph
 Ferguson, W. J., Sedalia
 Fewel, R. B., Montrose
 Fletcher, J. H., Butler
 Forgrave, H. S., St. Joseph
 Foster, Hal, Kansas City
 Foster, Thomas W., Butler
 Frankenburger, J. M., Kansas City
 Freeman, A. B., Eldorado Springs
 Freymann, Amos A., Kansas City
 Francisco, C. B., Kansas City
 Frick, William, Kansas City
 Frischer, Julius, Kansas City
 Fulton, Charles M., Kansas City
 Fulton, Frank H., Kansas City
 Funkhouser, Robert M., St. Louis
 Gaines, J. J., Excelsior Springs
 Garner, R. L., Kansas City
 Gebhart, Oliver C., St. Joseph
 Geiger, Charles G., St. Joseph
 George, J. Henry, Little Blue
 Gillham, Frank W., Jefferson City
 Gleaves, O. G., St. Joseph
 Goetze, W. F., St. Joseph
 Goldman, Max, Kansas City
 Good, Clarence A., St. Joseph
 Goodson, William H., Liberty
 Goodwin, E. J., St. Louis
 Gosney, C. W., Kansas City
 Grace, J. F., Excelsior Springs
 Grace, H. M., Chillicothe
 Graves, William W., St. Louis
 Gray, L. L., Powersville
 Green, John R., Independence
 Green, L. D., Richmond
 Greenberg, Charles, St. Joseph
 Griffith, A. C., Kansas City
 Griffith, Charles E., Gallatin
 Grimes, Marvin, Hardin
 Grindon, Joseph, St. Louis
 Gunn, A. J., Versailles
 Hale, Joseph M., Dearborn
 Hall, C., Lester, Kansas City
 Hall, O. B., Warrensburg
 Hamilton, Burford G., Kansas City
 Hamilton, Hugh D., Kansas City
 Hamilton, R. L., Richmond
 Hampton, J. R., Clinton
 Hamel, A. H., St. Louis
 Haning, H. P., Purdin
 Hanna, M. A., Kansas City
 Hanser, Herman A., St. Louis
 Harrelson, N. O., Kansas City
 Harrison, J. F., Mexico
 Harwood, W. G., Dover
 Hayden, John G., Kansas City
 Hawkins, G. W., Salisbury
 Henderson, James P., Kansas City
 Henson, L., Galena
 Herndon, A. S., Camden Point
 Hertzler, Arthur E., Kansas City
 Higdon, E. F., Richmond
 Hill, Howard, Kansas City
 Hiller, Frank B., Kansas City
 Hinkley, F. J., Stanberry
 Holbrock, Ralph, Kansas City
 Hornback, J. T., Nevada
 Howard, F. A., Slater

- Hoxie, George H., Kansas City
 Hughes, Marc Ray, St. Louis
 Hurford, P. G., St. Louis
 Hyndman, Charles E., St. Louis
 Jackson, Jabez N., Kansas City
 Jackson, John D., Kansas City
 James, L. S., Blackburn
 James, Samuel C., Kansas City
 James, W. J., Excelsior Springs
 Janes, Vincil, Cameron
 Jerard, H., Pleasant Hill
 Jerowitz, H. D., Kansas City
 Johnson, S. A., Springfield
 Johnson, William E., Warrensburg
 Jones, W. G., Lincoln
 Kane, R. Emmet, St. Louis
 Keith, Willis E., Excelsior Springs
 Kempff, Louis A., St. Louis
 Kenney, W. L., St. Joseph
 Kerr, H. L., Crane
 Kieffer, A. R., St. Louis
 Kimberlin, J. F., Clarksdale
 Kimsey, J. T., Lathrop
 Klingner, Thomas O., Springfield
 Knerr, E. B., Kansas City
 Knox, A. C., Kansas City
 Koon, Guy A., Galt
 Kuhn, H. P., Kansas City
 Lake, N. E., Kansas City
 Lamar, Frederick C., Kansas City
 Lane, H. H., Kansas City
 Laning, J. H., Kansas City
 Lanyon, W. H., Joplin
 Lau, Gustav A., St. Joseph
 Lemon, A. L., Riley, Kan.
 Leonard, P. I., St. Joseph
 Lewis, Bransford, St. Louis
 Lichtenberg, Joseph S., Kansas City
 Lieuallen, R. O., Princeton
 Lillv, Terry E., Kansas City
 Lindley, W. T., Hamilton
 Link, J. J., St. Louis
 Lipsitz, S. T., St. Louis
 Lockwood, T. F., Butler
 Logan, James E., Kansas City
 Long, Frank B., Sedalia
 Long, L. S., St. Joseph
 Look, H. H., Kansas City
 Lowe, Frederick M., Kansas City
 Ludwick, A. L., Kansas City
 Lux, Paul, Kansas City
 Lyle, Halsey M., Kansas City
 McAlester, A. W., Columbia
 McAlester, A. W., Jr., Kansas City
 McAllaster, B. R., Carthage
 McCallum, F. M., Kansas City
 McCandless, O. H., Kansas City
 McCarty, V. W., Kansas City
 McComas, A. R., Sturgeon
 McCormick, F. L., Huntsville
 McConkey, C. M., Lathrop
 McDermott, J. L., Kansas City
 McDonald, Chett, Kansas City
 McGill, W. J., St. Joseph
 McGaugh, E. T., Richmond
 McGlothlan, A. B., St. Joseph
 McGuire, C. A., Kansas City
 McGuire, Morris S., Arrow Rock
 McLarney, John T., Brookfield
 McNees, A. J., Clinton
 McPherson, O. P., Kansas City
 Mackey, J. F., Odessa
 Mairs, E. J., Laredo
 Mairs, W. J., Newtown
 Malotte, K. R., Maryville
 Manning, D. F., Marshall
 Manning, J. C., Skidmore
 Mark, Ernest G., Kansas City
 Martin, Henry L., Kansas City
 Martin, J. R., Merwin
 Matthews, F. H., Liberty
 May, H. A., Washington
 Meade, R. H., Kansas City
 Miles, Horine, Webster Groves
 Miller, E. F., Liberal
 Miller, E. H., Liberty
 Miller, E. L., Kansas City
 Miller, J. M., Montrose
 Miller, R. M., Belton
 Miller, W. McN., Columbia
 Milne, Lindsay S., Kansas City
 Mitchell, Guy B., Branson
 Moore, T. E., Trenton
 Moore, J. G., Mexico
 Morfit, John C., St. Louis
 Morrow, W. F., Kansas City
 Morton, Daniel, St. Joseph
 Mosher, George C., Kansas City
 Moss, H. E., Kansas City
 Moss, Woodson, Columbia
 Mott, J. S., Kansas City
 Mount, R. L., Polo
 Murphy, Franklin E., Kansas City
 Murray, S. A., Holden
 Musgrave, John E., Excelsior Springs
 Neal, J. Park, Kansas City
 Neilson, C. H., St. Louis
 Newlon, J. S., Butler
 Nicholson, C. M., St. Louis
 Nifong, Frank G., Columbia
 Norman, J. B., Tipton
 Noyes, Guy L., Columbia
 Overholser, M. P., Harrisonville
 Owens, J. F., St. Joseph
 Owens, M. J., Kansas City
 Ozias, Charles O., Kansas City
 Packwood, S. D., St. Joseph
 Pare, E. Y., Leeton
 Park, Henry C., Knobnoster
 Parker, Elmer L., Excelsior Springs
 Parker, H. F., Warrensburg
 Patterson, Joseph M., Kansas City
 Patterson, William R., Warrensburg
 Paul, Thomas M., St. Joseph
 Pearse, Herman E., Kansas City
 Peters, M. L., Cameron
 Polk, David T., Excelsior Springs
 Poorman, B. A., Kansas City
 Porter, David R., Kansas City
 Porter, H. L., Seneca
 Potter, Caryl, St. Joseph
 Pound, J. B., New Boston
 Prentiss, H. S., Kansas City
 Proud, Willard C., St. Joseph
 Quigley, B. T., Mound City
 Rabenau, W. J., Fordland
 Randall, Leslie, Licking
 Ravenel, M. P., Columbia
 Reder, Francis, St. Louis
 Redman, Spence, Platte City
 Redmond, Thomas, St. Joseph
 Reid, H. L., Charleston
 Remley, A. R., Lawson
 Reynolds, J. B., St. Joseph
 Reynolds, W. T., Kansas City
 Rhoades, H. A., Foster
 Rice, J. T., Excelsior Springs
 Richey, Robert, Urbana
 Richter, George, St. Louis
 Rienhoff, William, Springfield
 Ridge, F. I., Kansas City
 Ritter, C. A., Kansas City

- *Robertson, A. W., Lathrop
 Robertson, J. Archie, Kansas City
 Robichaux, E. C., Excelsior Springs
 Robinson, E. E., Adrian
 Robinson, Ernest F., Kansas City
 Robinson, J. F., Nevada
 Robinson, G. Wilse, Kansas City
 Russell, C. W., Springfield
 Russell, R. Lee, Humansville
 Ryland, C. T., Lexington
 Sampson, J. H., St. Joseph
 Sanders, Frank L., Kansas City
 Sanders, St. Elmo, Kansas City
 Schauffler, Robert M., Kansas City
 Schisler, Edwin, St. Louis
 Schlueter, Robert E., St. Louis
 Schofield, L. J., Warrensburg
 Scholz, S. B., Jr., St. Louis
 Schooley, R. C., Odessa
 Schorer, E. H., Kansas City
 Schrutchfield, G. E., Farmington
 Seba, John D., Bland
 Sevier, R. E., Liberty
 Sevier, Robert, Richmond
 Sharp, William L., Little Rock
 Sheetz, Robert, Orrick
 Sheldon, J. G., Kansas City
 Sheley, O. C., Independence
 *Shelton, G. W., Oneida, Kan.
 Shelton, J. C., Chillicothe
 Shelton, W. A., Kansas City
 Shobe, H. G., Jefferson City
 Shotwell, Charles B., Richmond
 Shumate, D. L., Kansas City
 Shuttee, H. C., West Plains
 Shy, M. P., Sedalia
 Singer, J. J., St. Louis
 Skinner, E. H., Kansas City
 Skoog, A. L., Kansas City
 Smith, J. D., Shelbyna
 Smith, S. D., Cowgill
 Smith, James W., Richmond
 Smith, Marshall A., Gallatin
 Spencer, Floyd H., St. Joseph
 Spotts, B. M., Marshall
 Steckman, P. M., Plattsburg
 Stevenson, G. R., St. Joseph
 Stone, A. B., Lamar
 Stratton, C. D., Linn
 Strother, J. S., Kansas City
 Suddarth, C. H., Smithville
 Swahlen, Percy H., St. Louis
 Swaney, A. G., Lees Summit
 Talbott, Hudson, St. Louis
 Tatum, Harry E., Brunswick
 *Taucher, A. J., Milwaukee, Wis.
 Taylor, E. P., Fairfax
 *Terry, R. J., St. Louis
 Tesson, N. A., Kansas City
 Thomason, H. E., Kansas City
 Thompson, W. G., Holden
 Thornburgh, A. H., West Plains
 Thornton, J. E., Columbia
 Tiffany, Flavel B., Kansas City
 Timberman, J. H., Marston
 Titsworth, Guy, Sedalia
 Todd, L. A., St. Joseph
 Todd, Thomas B., Pilot Grove
 Trimble, William K., Kansas City
 Tout, B. B., Archie
 Tucker, A. J., Sedalia
 Tuttle, F. W., Mt. Leonard
 Twyman, E. D., Independence
 Vandivert, A. H., Bethany
 Vandivert, W. W., Bethany
 Vessells, F. M., Perryville
- Walker, G. D., Eldon
 Walker, G. S., Harwood
 *Wall, G. A., Tulsa, Okla.
 Wallace, Charles H., St. Joseph
 Wallace, J. S., Brunswick
 Wallace, W. S., Excelsior Springs
 Waterman, J. A., Breckenridge
 Weitz, George J., Boonville
 Welch, Albert J., Kansas City
 Welch, J. Franklin, Salisbury
 Welch, W. A., Callao
 Werner, C. H., St. Joseph
 West, William M., Monett
 Wetzell, N. M., Jameson
 Wheeler, W. S., Kansas City
 Whipple, N. L., Kansas City
 White, W. L., Springhill
 *Wiley, F. M., Fredonia, Kan.
 Widner, A. W., Newtown
 Wilhelm, F. E., Kansas City
 Williams, Rex, Kansas City
 Williams, W. A., Hume
 Wills, R. L., Neosho
 Willson, G. C., Nevada
 Wilson, Dora Greene, Kansas City
 Wilson, R. P. C., Marshall
 Winningham, W. H., Trenton
 Wittwer, Edward C., Mountain Grove
 Wood, A. M., Lentner
 Wood, N. P., Independence
 Woods, R. J., Smithville
 Woodson, C. R., St. Joseph
 Wright, J. B., Trenton
 Wysong, W. C., Missouri City
 *Yale, C. F., Nashville, Tenn.
 Yancey, E. F., Sedalia
 Yater, J. M., Nevada
 Yates, D. D., Dawn
 Yeater, H. P., Maysville
 Zey, E. G., Butler
 Zwart, Bernard H., Kansas City
- Total, 448

PROCEEDINGS OF THE WASHINGTON UNIVERSITY MEDICAL SOCIETY

Twenty-Eighth Meeting, Monday, Feb. 14, 1916

1. EXHIBITION OF CASES.

A. A CASE OF CYSTICERCUS RACEMOSUS.— By DR. WALTER THOMAS.

The patient, a white man, aged 39, a butcher by trade, entered the hospital June 11, 1915, suffering from increased intracranial pressure and pointing to a lesion in the cerebello-pontine angle. A cerebellar decompression and exploration was done but no lesion was found. Four months later a hypophyseal decompression was done. Neither operation revealed a cause for his symptoms or gave more than temporary relief. Death occurred rather suddenly four months after the second operation.

At necropsy the thoracic and abdominal viscera showed no marked lesions. The brain was hardened in situ by injecting formaldehyde solution into the carotid arteries.

Examination: The surface of the brain was regular, the two sides symmetrical, the convolutions over the entire surface were greatly flattened. Over the base, particularly over the pons, there was a thick yellowish somewhat friable material; this material extended between the pons and the cerebellum and surrounded many small cysts which were in this area; these cysts averaged 8 mm. in diameter and were filled with a clear gelatinous material. On sectioning the

* Guests

cerebellum and pons two distinct hemorrhages were found, the larger one in the pons; this in all probability was the cause of death. On sectioning the cerebrum a cyst 3 cm. in diameter was found in the region of the island of Reil on the left side; the cyst was irregular in outline and contained many small daughter cysts, all of which were filled with a colorless fluid. There was a second cyst 4 cm. in diameter within the septum lucidum and connected with a series of small cysts in the inferior longitudinal fissure. In the site of the optic radiation on the left side were several small gray areas surrounded by yellowish zones.

Microscopic examination: Sections from the surface of the pons showed a cyst wall made up of a layer of hyaline tissue lined by a wavy line of epithelial cells; this wall was surrounded by proliferating connective tissue cells infiltrated with lymphoid cells in immense numbers and a great many giant cells; there were a few polynuclear leukocytes and some necrosis. The larger blood-vessels showed marked periendarteritis and endarteritis. Sections from other areas of the brain showing the cysts presented a similar picture. Notwithstanding a thorough search a scolex was not found.

DISCUSSION

DR. E. SACHS: This case was of great interest from the clinical standpoint.

Very briefly: The patient came in the first time on the neurological service with a double choked disc of very advanced stage and no localizing symptoms except a tendency to fall. In view of this very marked choked disc, he was explored over the cerebellum; marked pressure was found, and a decompression was done. No pathological lesion found. He was sent home and returned in about six months with a large cerebellar hernia and the history that in the meantime he had lost vision in one eye. Examination of the other eye revealed a characteristic picture of beginning blindness in the temporal field. Roentgen-ray pictures at that time showed that the posterior part of the sella turcica was completely destroyed, and in view of the eye findings characteristic of a sella turcica lesion, we opened the sella turcica and took out a specimen of the pituitary body which microscopically was normal. There was no evidence of a tumor or a cyst there.

Now, we usually try to explain a cranial disturbance on the basis of one lesion, if it is possible, and except for metastatic malignant processes they are usually single and not multiple. In this case that was extremely difficult because there were several symptoms that we never could get into the clinical picture; for example, he at times showed a typical picture of what the Germans call "Witzelsucht," a tendency to laugh and be very jocose. The hemorrhage in the pons accounts for his sudden death. He suddenly became unconscious in bed, remained so for about forty-eight hours, and then died; a rather typical picture of pontine hemorrhage.

The one thing that was particularly interesting here was accounting for this peculiar visual disturbance. One of the deposits in the brain is in the optic radiation of the hemisphere, in which such a visual disturbance would occur, and the occipital lobe supplies the outer field of one eye and the inner one of the opposite eye. As this patient became blind during his absence from the hospital, we misinterpreted his visual disturbance in one eye as a sella turcica phenomenon, supposing that in the other eye he had also lost his vision first in the temporal field; whereas, as a matter of fact, unquestionably vision first disappeared in the nasal side of the opposite eye, which is a rather unusual lesion and is impossible to distinguish if the patient

is absolutely blind in one eye. From a surgical standpoint, of course, the condition is absolutely hopeless.

DR. S. I. SCHWAB: Dr. Sachs has touched on one of the important lessons to be learned from this case, a lesson that I have had impressed on me many times in the last year and a half; that is that one is bound, from a diagnostic point of view, to explain a lesion if he can or leave it unexplained rather than attempt to cover it by stretching a hypothesis. The tendency to try to explain all things in a cranial symptom by one lesion is a very dangerous one I think, and owing to that traditional bias I have personally made an error at least three times in cases of multiple abscess. The principle we should all try to keep before us is, that in the presence of a symptom we cannot explain we should set aside that symptom as inexplicable and not try to cover the whole diagnostic puzzle by one assumed process. I think the next time we meet this sort of emergency, we will diagnose as many lesions as are necessary to cover the various symptoms which do not fit together.

2. ON THE PRESENCE OF KETONES AND B-HYDROXYBUTYRIC ACID IN THE URINE OF NORMAL CHILDREN.—By DR. BORDEN S. VEEDER AND DR. MEREDITH R. JOHNSTON.

As a part of a general study of the urine of normal children under different dietetic conditions, a number of urines were studied to determine whether or not ketones and beta-hydroxybutyric acid were present, and if so, in what quantities. Although discussions of acidosis in childhood and particularly of pathological conditions in which large amounts of "acetone bodies" appear in the urine, are numerous, there are no figures in literature, so far as we know, in regard to the amount of these substances in the urine of "normal" or healthy children.

The determinations were made by the method of Shaffer. The children from whom the twenty-four specimens examined were obtained were what is usually termed "normal," with a few exceptions. The diet was what we term a "standard metabolic diet." It is properly balanced in fat, carbohydrate, and sugar, and sufficient to cover caloric needs. The urines of twenty children were examined; because of the uniform results, it seemed unnecessary to make determinations from a larger number of children.

Small amounts of ketones and beta-hydroxybutyric acid were always found in the urines of these normal children. The amount was small and varied from 20 to 100 milligrams, in terms of acetone, in twenty-four hours. The average amount excreted was from 50 to 80 milligrams. The age, sex and body weight of the child apparently did not influence the amount excreted. As a rule the amount of B-hydroxybutyric acid was greater than the amount of ketones, but this was not invariable.

We must regard these substances as present in small amounts in the urine of normal children. The large quantity of "acetone bodies" in the urine in febrile conditions and on restricted diets is due to an increase of substances normally present, rather than to the appearance of abnormal substances.

3. THE PHARMACOLOGICAL ACTION OF NITROUS OXID.—By DR. D. E. JACKSON. (From the Department of Pharmacology)

For a number of years past nitrous oxid has been constantly growing in favor as a general anesthetic and analgesic. This has been mainly made possible by the introduction of improved methods of administration. The duration of the anesthesia under

nitrous oxid has also progressively increased from an average of only a minute or two up to an average of perhaps ten minutes or longer. I have been able by an improved method to keep dogs anesthetized for periods up to five and one-half hours.

Quite recently there has been a slight tendency to avoid the use of nitrous oxid in any prolonged operation (half an hour or more), because it has frequently appeared that the after effects were more deleterious than those of ether. I strongly suspect that this has mainly been due to the use of improper methods of administering the nitrous oxid. I believe also that the cost of nitrous oxid anesthesia may be reduced by the method which I have used.

There is a striking similarity between the action of morphin and that of nitrous oxid and oxygen as observed experimentally on dogs. In the present work the nitrous oxid and oxygen have been administered by means of a special apparatus which permits a single "dose" of nitrous oxid to be breathed continuously over and over without either loss or gain in the amount of the gas, while at the same time oxygen is given to the animal in suitable proportions to maintain the circulation and respiration in good condition. The carbon dioxid and watery vapor exhaled by the animal are constantly removed from the oxygen and nitrous oxid breathed by washing the respiratory medium through strong sodium and calcium hydroxid solution, and through concentrated sulphuric acid respectively. Under these conditions it is possible to administer the nitrous oxid in very gradually increasing doses and the progressive effects produced on the animal can be readily observed and studied.

Among the more striking points of similarity to morphin is the production of Cheyne-Stokes respiration. The conjunctival reflex is not lost in dogs under nitrous oxid. The pupils are dilated, but the light reflex is preserved. The irritability of the cord is much less depressed than is the case with the methane series of anesthetics. A peculiar feature is noticed in the fact that the animal while apparently moderately well anesthetized may be aroused by stimulation or shaking as may be done under a moderate dose of morphin. When thus aroused there is also often observed a marked acceleration and increase in strength of the heart beat. If the animal be again left alone it will soon pass back into the somnolent or perhaps analgesic state, very much as occurs after morphin.

It is difficult to study the analgesic effect of nitrous oxid as separate and apart from the production of total unconsciousness on dogs.

There seems to be no doubt but that, as a rule, the human subject must be more susceptible to nitrous oxid than are dogs. In experiments on myself I have easily been able to produce a state of almost complete unconsciousness with quantities of nitrous oxid apparently less than those required for dogs. And similarly, the periods of time needed to fully anesthetize a dog is often more than five minutes. In the human subject it is seldom more than two minutes (with oxygen). But the closed method which I have here used may be partly responsible for the results obtained in dogs. And further, the duration of anesthesia in dogs after the face piece is removed, is often not greater than one second, especially if the animal has been anesthetized for only a little while. In man it may be forty or fifty seconds. A considerable degree of anoxemia is often imperative to keep dogs anesthetized with the gas.

The action of ethyl chlorid is about midway between that of nitrous oxid and of ether. Neither nitrous oxid nor ethyl chlorid are very suitable anesthetics for dogs. The action of ethyl bromid is about midway between that of ether and of chloroform.

4. INTERNAL SECRETION AS A FACTOR IN THE ORIGIN OF CANCER.—BY DR. LEO LOEB.

Carcinoma of the mammary gland in females is the typical cancer in mice. It is possible to reduce the incidence of spontaneous cancer in these animals from 60 to 70 per cent. to 9 per cent. through castration at the age of 4 to 6 months. The age at which cancer occurs is increased in castrated animals. If mice are prevented from breeding, the cancer rate is slightly diminished and the cancer appears later in life.

In the ovaries a substance (internal secretion) is produced which stimulates the growth of the mammary gland. The elimination of this substance reduces very much the liability to cancer, even in animals hereditarily predisposed to cancer. Prevention of breeding reduces somewhat the quantity of substance produced by the ovary and thus reduces slightly the liability to cancer.

DISCUSSION

DR. C. H. DANFORTH: I would like to ask Dr. Loeb if in the case of these mice there is evidence that the tendency to produce cancer is a strictly specific thing, or if it is perhaps one of the manifestations of a more generalized peculiarity. Do these strains in which the incidence is high reproduce more rapidly, do they recover from wounds more quickly or do they show other metabolic activities to a greater extent than those in which the incidence is low?

DR. LOEB: We found in a number of cases that those strains in which cancer is very frequent are better breeders than other mice, in which cancer is less frequent, but I am not prepared to say that there is a definite causal connection between these two conditions. The point about wound-healing is a very interesting one, and I have considered, too, that there might be greater response to growth stimuli in strains rich in tumors but this point has not yet been established.

DR. OPIE: I would like to ask Dr. Loeb as to whether the effect of castration is a general one or perhaps a local one. As I understood it, these cancers of the mammary gland are particularly frequent in mice. Is the development to any considerable extent influenced by the local process in the mammary gland; that is, the repeated lactation?

DR. LOEB: The mice after castration are very healthy mice. The effect is, in my opinion, a direct one, depending on the elimination of an internal secretion.

DR. OPIE: I had reference especially to the effect of lactation.

DR. LOEB: Prevention of lactation cannot be the principal factor in the effect of castration inasmuch as prevention of breeding, which eliminates lactation, has very much less effect than castration.

DR. DOCK: I do not think the doctor spoke of cancer of the uterus in mice. Do they have them?

DR. LOEB: I have never observed it.

5. THE PSYCHOLOGY OF STUTTERING.—BY DR. LOUIS K. GUGGENHEIM.

During the sixteenth century stuttering was thought to be due to a humidity of the brain. This conception gave place during the eighteenth century to the belief that the speech defect resulted from certain anatomic defects in the peripheral speech apparatus. This theory naturally led to the belief that surgical procedures were indicated. Many cases were operated on during a brief period (early part of nineteenth century). Since then two schools have arisen: the one believing that the disturbance of speech and other peripheral manifestations are primary, the psychological abnormalities secondary; the other that the central manifestations cause the speech disturbances, etc. The

writer belongs to the latter school. It is my belief that the speech disturbance results from two conflicting desires: a desire to speak which is conscious and a desire not to speak which is unconscious. The motive power of the inhibiting desire is usually an emotional escape from incompletely repressed material which is incompatible with the ego of the individual. The fear associated with speaking is in reality not a fear that speech will not be forthcoming but a fear of divulging through speech certain unconscious material incompatible with the conscious life of the individual.

Physiologic stuttering may occur throughout life, but is most frequent during the first few years of existence and is due at this time to incompletely formed auditory verbal images.

Report of case: Man, aged 30, who because of certain peculiarities of mother, failed to develop the normal mother fixation and instead became partially fixed on father. This led to the development of an unconscious homo-sexuality which resulted in stuttering and other psycho-neurotic manifestations. The true cause of the speech defect was discovered through psychoanalysis.

DISCUSSION

DR. S. I. SCHWAB: I think Dr. Guggenheim's paper illustrates that Freudian analyses are not particularly good subjects for presentation to an audience unless the audience or most of them are acquainted somewhat with Freudian concepts.

On the particular subject of stammering and stuttering I am afraid I would be inclined to disagree with Dr. Guggenheim, and I think I would be supported by most of the Freudians, of whom I am not one, by the way, who have tested this thing out and tested it out with a great deal of patience. So many of the ideas of Freud's psychology are so evident, I think, to those who have gone into the subject at all, that it is a pity one should get such a wrong idea of its application in cases of this sort.

I do not hesitate for a moment to agree in this sense with Dr. Guggenheim's presentation. I think he went at this thing in a perfectly proper spirit, and I am sure that he has learned much from his investigation of the case, and I do not question at all the benefit it might have given or it has given his patient; but I do object strenuously to any generalization from this one case. Those of us who have had to do with defects of speech, have come to believe that there are a great many theories that are perfectly adequate as far as theories go to explain stuttering. The foundation of the whole thing is that speech itself is yet too much an unsolved problem to enable us to arrive at any general conclusion as to what pathological state of speech stuttering is. If Dr. Guggenheim had called his paper a theory, a psychological explanation of stuttering, I think all of us would be willing to listen to what he has to say with a certain amount of sympathy, but to call it "*The Psychology of Stuttering*," is to my notion unsupported by the facts.

6. THE RELATION OF THE SPHENOIDAL SINUS TO THE EUSTACHIAN TUBE AND THE GASSERIAN GANGLION.—By DR. GREENFIELD SLUDER.

Dr. Sluder showed drawings of serial sagittal sections of decalcified specimens (which were too delicate to answer for demonstration to the Society) illustrating that when the sphenoid sinus is prolonged downward into the pterygoid process, as it frequently is, as far as the bifurcation of the plates it may come into close association with the Eustachian tube. In some specimens it was separated from the tube by a film of bone eggshell thick. In other specimens although the sinus extended down to the bifurca-

tion of the plates it was separated from the tube by 10 mm. This was because of the tensor palati muscle being much more developed and arising higher on the pterygoid. When the muscle was small the association was very close; when the muscle was larger the separation was greater. He showed drawings of a well-developed sphenoid sinus not prolonged into the pterygoid process (2 cm. transverse by 18 mm. sagittal by 2 cm. vertical) where its separation from the tube measured 10 mm.

Dr. Sluder presented these anatomical findings as an explanation of the very satisfactory results that are sometimes gotten from the postethmoidal, sphenoidal operation in cases of intractable low grade deafness from tube obstruction. Piersol has observed that the glands of the membrane lining the tube often pierce into the depths to extend through fissures in the cartilage into the surrounding connective tissue.

He showed drawings of serial sagittal sections (which were too delicate to answer for demonstration to the Society) illustrating that the sphenoid sinus may be prolonged outward and backward to underlie the anterior half of the Gasserian ganglion. When the sinus was of that size it extended also under the sphenoidal fissure and came to close association with the oculomotor, ophthalmic and abducent nerves. The trochlearis was separated by virtue of the fact that it lay on top of the oculomotor. The bone separating all these nerve structures from the sinus was eggshell thick.

Dr. Sluder stated that in his previous considerations (anatomic and clinical) he had been at a loss to explain the phenomena of herpes in connection with sphenoidal sinus disease. He thought this anatomic finding explained some of the phenomena. He had previously mentioned the nerve associations in the sphenoidal fissure.

THE SURGEONS' CLUB OF ST. LOUIS

Dec. 22, 1915

(Continued from June Number, page 299)

LYMPHO-SARCOMA OF THE MEDIASTINUM; SPECIMENS.—By DR. JOHN MCH. DEAN.

The first specimen is from a patient who had been the rounds of different clinics and received different diagnoses. Some made a diagnosis of tuberculosis and he finally went to Mt. St. Rose. Dr. Boisliniere examined him carefully; found no tubercular bacilli in sputum and came to the conclusion that the patient had mediastinal tumor. The patient was transferred to St. Mary's Infirmary where it could be easily made out that he was suffering from something in his chest which caused marked intrathoracic pressure symptoms. The Roentgen ray showed a mediastinal growth. Paralysis of left vocal cord was present. Diagnosis, lymphosarcoma involving the left recurrent laryngeal nerve. The postmortem specimen bears out the fact that this lymphosarcoma involved the left recurrent laryngeal. The patient was 30 years of age.

MULTIPLE CALCULI OF THE KIDNEY AND URETER.

The next specimen was taken from a patient who was a comparatively healthy looking individual, 26 years of age. He complained chiefly of pain in the abdomen and vomiting, and was in such a critical condition that a very thorough examination could not be made. The vomiting continued in spite of everything that was done. It was at first bile, but subsequently was pure blood. Roentgen ray showed multiple calculi in both kidneys and in the ureters. Urine showed albumin, pus and a considerable amount of blood.

The next specimen is one of bicornuate uterus removed from a patient whose chief complaint was pain in the lower abdomen, pain in the back and dysmenorrhea. It is curious, too, that the operation showed that the patient had a chronic salpingitis. One tube was considerably swollen and contained a considerable quantity of pus. The other showed some thickening. I did a supravaginal hysterectomy, took out both tubes and left in one ovary. The patient made a very good recovery and has since been free from the pain.

The next specimen shows one large stone in a gangrenous gallbladder. Patient made a good recovery.

DISCUSSION

DR. H. S. MCKAY: I would like to hear a little more of the history of the case with multiple calculi, whether or not the woman was passing any urine at the time.

DR. DEAN: She was passing urine, but the quantity was very much diminished. The stones did not completely obstruct the ureter. The cause of her death I ascribed to uremic gastritis. She had a diminished quantity of urine, a considerable amount of albumin and pus in the urine, and so developed this secondary gastritis, which I think was due to uremia.

DR. W. C. G. KIRCHNER: In regard to the treatment of the case of lymphosarcoma, in Cincinnati last week a number of apparent cures was reported with the use of radium. Dr. Kelly of course is enthusiastic about that sort of treatment and his pictures showed wonderful results. Dr. Ransohoff had also had several cases of lymphosarcoma that were at least remarkably improved by the use of radium.

DR. WILLIAM S. DEUTSCH: That brings to mind a report that would perhaps be interesting, a case occurring in a relative's family, where a man of 60 was operated on for apparent lymphosarcoma of axilla, clavicle, and possibly in the shoulder. Patient recovered from the operation, and a month afterward was advised to go to Baltimore to take the radium treatment. He did so, received four applications, and died very promptly, although he was ready to go to his cottage in Atlantic City when he left here.

DR. O. H. ELBRECHT: Last winter I was induced to send to Dr. Kelly a case of sarcoma of the uterus from whom I had removed a Mason jarful of sarcomatous tissue, and we thought the patient had a good chance for getting along nicely. She has been down there five times, but there has been absolutely no improvement that I could see. Dr. Kelly shows lantern slides of sarcomatous patients without specifying lymphosarcoma. I should like to ask Dr. Dean if that bicornuate uterus has shrunk. He said there was pus in the tube. Has it shrunk down considerably?

DR. DEAN: Yes.

DR. ELBRECHT: I have seen two at necropsy and made a diagnosis in one that came about purely accidentally. In this case the uterus was sounded, and as the sound was withdrawn the omentum followed it into the vagina. I very carefully replaced the omentum with uterine dressing forceps, and tried the same procedure at a later date and got the omentum again.

DR. JOHN MCH. DEAN (closing): I think, if the gentlemen remember, that about three or four months ago Dr. Behrens reported some of these mediastinal growths treated by the Roentgen ray, which improved very much just by massive doses. I am of the opinion that mediastinal tumors that improve under the Roentgen ray or radium are probably not lymphosarcoma. My experience with Roentgen-ray treatment has been that of Dr. Bartlett with radium. All my cases of tumor treated with Roentgen ray were relieved, but metastases started up and the growths were disseminated.

Feb. 16, 1916

CASE REPORTS.—By DR. CARROLL SMITH.

TYPHOID PERFORATION FOLLOWED BY FECAL FISTULA

The case was a boy 12 years of age, who entered the City Hospital Sept. 6, 1915. September 17, which was about the middle of the third week of his typhoid, he suddenly developed a severe pain in the abdomen, the temperature shot up, the belly became rigid and the leukocytes went up to 9,000. The next day the pain had increased, the leukocytes were up to 10,000, and on examination we came to the conclusion that we were dealing with typhoid perforation.

The boy was operated on at 11:30 the next day. A right rectus incision was made, the perforation easily found and sewed up with purse-string suture. There was general peritonitis and the abdomen and pelvis full of foul-smelling pus. He had a rather stormy convalescence, but recovered from this operation fairly satisfactory.

September 28 the temperature was normal and the patient apparently on the road to recovery. October 8 the temperature suddenly went up; it ranged from 101 to 103.4 until the 29th of that month. We tried to find some cause for this temperature, but finally we decided that he had a relapse of his typhoid fever. October 31, on account of the infection about the wound, the stitches all sloughed out. In fact, we had pulled the wound together with silkworm gut and did not attempt closure on account of the bad condition of the patient. September 30 a piece of gut in the wound ruptured and a fecal fistula followed with quite a little digestion of the skin about it, so we concluded it must be high up in the intestine.

December 13 we operated on the fistula and made a median incision. The bowel was cut loose from the anterior abdominal wall and three-fourths inch of the bowel was resected, and end-to-end anastomosis made by the suture method. He finally recovered and was up and around in very good condition. January 15 the patient was considered about ready to go out, but began to have "sick stomach," as he called it, and vomited. On the next morning he had apparently a normal bowel movement, but about noon he vomited a considerable amount of blackish, undigested food, and had a colicky pain, mostly in the lower left quadrant of the abdomen. We decided there was sufficient evidence of intestinal obstruction to warrant operation, so this time we made a left rectus incision. It was very unfortunate that we did, on account of the adhesions we found over the whole left side. A loop of distended gut presented itself and was traced to a mass which proved to be several portions of gut adherent together, but did not seem to be a satisfactory cause for the obstruction. So on looking a little further we found a band of omentum about one-half inch in diameter, twisted into a cord, passing from the upper left quadrant, across and down to the cecal region, and in this band was a piece of kinked gut. The bowel above this kink was distended and below was distinctly flat and empty. This was cut and the abdomen sewed up with drainage, which was necessary on account of some infection on the skin before we started. The patient instead of losing weight, as we usually expect with these high openings, gained weight, and that is probably explained by the condition of the bowel, apparently most of the food passing to the lower portion of the bowel.

TUMOR OF THE HEAD OF THE PANCREAS

This case is a man, aged 54, who was admitted to the hospital Nov. 16, 1914. At that time he stated that he was taken two weeks before with sudden pain in the right upper quadrant, chills, fever and nausea. He had gone to work in the morning feeling very good and this attack of pain came on and he went

home, recovered, and the next day went back to work and had another attack. He had about seven attacks in the two weeks before he entered the hospital. The jaundice came on not at the time of the attack, but several days later and rather suddenly. When he entered the hospital he had a marked icterus, apparently a complete obstruction of the outflow of bile. He was tender over the right upper quadrant.

November 23 the jaundice was better, which I think is a significant fact. December 14 the jaundice was almost gone and he was feeling decidedly better, but he was losing weight. December 20 the jaundice began again and up to December 25 it seemed to increase. His temperature during this period was around 98 and 97; pulse was around 80 to 90. The urine was examined on many occasions from Nov. 24, 1914, up to the last report I have, which is Jan. 27, 1915, and no sugar has been found in his urine at any time. On the latter date he was operated on at the City Hospital, and a markedly enlarged gallbladder was found and a large mass in the head of the pancreas, which at that time was considered carcinoma, so that a cholecystostomy was performed.

May 19 Dr. Hill again operated on the patient and exposed the common duct, finding no obstruction except at the head of the pancreas where there was obstruction of the common duct, also a large, hard, sclerotic mass which he considered carcinoma at that time and drained the common duct. The man was insisting that that he have this flow of bile stopped, so in July, 1915, we made a right rectus incision and found a great many adhesions in the abdomen. We found a pancreas tumor the size of an orange, nodular and very hard, enormous nodules throughout the pancreas, also a nodular mass in the lesser omentum. The gallbladder was cut from the lower end and anastomosed to the small intestine by a Murphy button. At this time, also, from the general appearance, it was considered a carcinoma of the pancreas.

The patient after the first operation made some improvement. The second operation was not really more than exploratory, so that there was no marked improvement after that.

August 10 he had chills and the temperature went up to 103.4, pulse 120. The next day the temperature was normal, and August 4 he had more chills. August 28 he had another slight chill. He has had none since that time, and we considered them due to cholangitis, the intestinal contents getting up into the gallbladder. When he left the hospital September 1 he weighed 132 pounds. This evening he weighed 158 pounds.

From the records I can find of carcinoma cases of the gallbladder they stand surgery very poorly and the mortality is very high from simple exploratory operation. According to the report of Mayo Robinson, in his cases that recovered from simple drainage of the gallbladder the longest was eight months; the average was four months after operation. So it makes one think that perhaps we are dealing with something here other than a carcinoma. It is my idea that in a carcinoma the jaundice is slow and progressive, but in this case the jaundice improved.

The length of time the case has gone seems to force the conclusion that we are dealing not with malignancy, but probably a chronic pancreatitis which may simulate carcinoma closely at times.

TYPHOID FEVER WITH PERFORATION.—By
Dr. E. SACHS.

A boy who on October 14 came into the hospital with typhoid fever, seven days later, in the afternoon, had a chill with elevation of temperature and a drop in his leukocytes. His abdomen was rigid, and at 9 o'clock that evening we felt sufficiently certain of a perforation to open him. He had a perforation, with free, purulent fluid in his abdomen. His wound was sewed up, but broke down completely and within two

weeks after his first operation he developed a fecal fistula which discharged moderately.

The wound gradually healed by granulation, but all the time there was a fecal discharge. November 20 he began to complain of abdominal pain and had a definite pattern on his abdomen, the obstruction apparently to the left of the scar, which was of a right rectus incision. The pain became so severe that we took him up that evening and opened him through a left rectus incision, finding the abdomen full of adhesions and all the loops that presented distended. We could not find any collapsed loop, nor could we determine which adhesions were responsible for the obstruction. Finally, in breaking up the adhesions in his left iliac fossa, we suddenly came onto a very large fecal abscess. At the time it was a question whether we had torn into the gut or whether it was an abscess. We could not determine positively. There was nothing to do except to drain him. The incision was closed and he was drained through a stab wound in his left iliac fossa. Strange to say, he made a perfectly uneventful recovery.

There is one other point of interest; that is that the day before his obstruction started, the fecal fistula on the left side stopped discharging, and after the second operation he developed a fecal fistula on the right side, or rather it began to discharge again, and we concluded that that on the left had been a fecal abscess and not an opening into the intestine.

The fecal fistula gradually closed and a month later, December 21, he was discharged as cured.

DISCUSSION

Dr. ROLAND HILL: The gallbladder case of Dr. Smith came under my care some time after his primary operation. He was in very serious condition. The bile kept running, and I deemed it wise to make a second operation with the idea that there would be some stone obstructing the common duct. When I went in I found a mass that, as Dr. Smith says, was clinically cancerous. The pancreas was very much enlarged and absolutely sclerotic in consistency. The question of cholecystenterostomy as done by Dr. Smith came to my mind, but considering the very short time these cases have to live I thought it hardly worth while, so I put in a drain and closed. Dr. Seelig some two months later asked me about the man, and I was surprised to find him living, and stated that while it was clinically cancer, the course of the trouble would speak against that condition, and still it is very hard for me to believe, in the face of what we saw, that there is not some cancerous mass in his pancreas. It is a very unusual case, and one in which cancer is progressing very much more slowly than is usual with cancer in this region.

Dr. M. G. SEELIG: Dr. Hill does not die any harder on this proposition than I do. I had my hands in this abdomen also, and if the sense of touch means anything and if the sense of proportion amounts to anything, this patient will die of carcinoma of the head of the pancreas. On the other hand, when we consider the time over which this case has extended, the lapse of time since the primary operation, and in the face of a progressive and very steady gain of weight, I think that Dr. Hill and myself, no matter how hard we may die, will necessarily have to die. When we went into the abdomen, it was perfectly hopeless to orient oneself; in fact, at the operation, I had my hands in the abdomen and would not venture to guess any nearer than 8 or 10 feet as to where we were anastomosing the gallbladder. I only know that it is anastomosed some where into the jejunum. So in the case of a possible postmortem, I should not be surprised to find, in spite of everything, a very definite chronic pancreatitis.

Regarding the little chap with typhoid perforation, Dr. Smith was very insistent before the last opera-

tion that the boy ought to be operated on for an obstruction, and I think his modesty deterred him from emphasizing the fact that he was insistent; but if this boy owes his life to anything, it is to the fact that he was operated on very early, and in spite of that early interference the abdomen was full of clear fluid at the time of operation. It has been my opinion that the boy had an attack of intestinal obstruction some days before. At that time he had a rather distinct pattern on his abdomen and this loop of gut could be made to erect itself at will over a period of four or five days, when he was having acute pain and high fever, and I was convinced at the time that he had an obstruction due to a band or to a fecal abscess such as the case described by Dr. Sachs. I felt rather confirmed in my opinion, when suddenly one day he poured out a mass of pus and infected material and the symptoms cleared up at once, but left him with this fecal fistula.

DR. E. SACHS: I would like to ask a question. One difference between this case of Dr. Smith's and mine was that he closed his fecal fistula. We allowed it to go in, and I would like to know whether in his opinion it is wise to attempt to close a fecal fistula so early. I have always had the feeling that it was well to give a fecal fistula, even if it was a small intestinal one (unless it was very high up and interfered with nutrition which this one did not), a good chance to close up if it would.

Then there is the point Dr. Seelig made. I think every one realizes it, and I gave an absolutely fatal prognosis after the second operation. I had not the remotest idea that he would ever get well.

DR. W. C. G. KIRCHNER: In regard to large tumors that are taken for cancer, I have been deceived in two instances. In one case some of our best clinicians had pronounced the case one of cancer of the stomach. On section, Dr. Brown found a large pancreas which was taken to be cancerous. On account of this diagnosis the man was closed up and allowed to take his exitus in the natural way, but some four or five years afterward he returned to the hospital and I had occasion to operate on him and found that the cancer at that time was apparently perfectly normal.

In another instance, where a diagnosis on my own part of cancer of the pancreas was made, after drainage the symptoms and the growth disappeared; so that in all these cases of enlarged pancreas I think we ought to be very careful about our diagnosis as to cancer.

Regarding the cases of typhoid perforation, I have learned to consider it a rather fortunate thing to have a fecal fistula occur, and it has been a life-saving operation in a great many cases. The lesson is probably that in these cases of typhoid perforation it is sometimes so difficult to close the perforation that it is best to anticipate a fecal fistula and make one that will save Nature the trouble.

(To be continued)

BATES COUNTY MEDICAL SOCIETY

The Bates County Medical Society met in regular session Thursday afternoon, May 25, 1916, at Butler, Mo. The meeting was called to order at 2:30 p. m. The minutes of the previous meeting were read and approved. Those present were Drs. E. E. Robinson and Floyd S. Bates of Adrian; Drs. C. J. Allen and H. W. Insley of Rich Hill; Drs. T. F. Lockwood, E. N. Chastain and J. S. Newlon of Butler.

We were glad to have Adrian and Rich Hill represented at this meeting. At this time of the year, when the roads are good and with pleasant weather our Society should prosper in professional strength, unity and enthusiasm.

A joint meeting with Henry County Medical Society was discussed by all present and a motion

was made and carried that the Secretary correspond with Dr. F. M. Douglas, Secretary of Henry County Medical Society in regard to the same and make arrangements if possible for the meeting in June.

The subject of rheumatism as outlined in the program was discussed by everyone present. Some favored the use of serum and phylacogen in the treatment while others were unable to obtain results with its use, therefore could not recommend it.

Every member was assessed 50 cents for the purchase of flowers ordered for the funeral of Dr. Charles P. Bowden.

Resolutions

The following resolutions of sympathy and sorrow were adopted on the untimely death of our confrere and fellow member, Dr. Charles P. Bowden of Appleton City, April 20, 1916.

Dr. Bowden was graduated from the Jefferson Medical College, Philadelphia, 1891. He was a faithful member of the Bates County Medical Society and loyal to the profession. He was much loved both as a physician and a gentleman of sterling worth by those whose good fortune it was to know him. The members of the profession and the public in general were indeed grieved at heart to learn of his tragic death. Dr. Bowden was widely known throughout this entire section and through his death we have lost a noble physician and the rich and poor equally share the loss of a true and loyal friend.

WHEREAS, The Great Physician in His providence has seen fit to call from labor our esteemed friend and brother, Dr. Charles P. Bowden, be it

Resolved, That the Bates County Medical Society extend to the bereaved wife and family of our deceased brother our heartfelt sympathy and we stand ever ready to console and to counsel with them at all times, and be it further

Resolved, That a copy of these resolutions be spread on the minutes of the Bates County Medical Society and published in the State Medical Journal, and a copy furnished to the family of our deceased brother. Done by order of the Bates County Medical Society.

T. F. LOCKWOOD,
E. N. CHASTAIN,
J. S. NEWLON,
Committee.

With no other business appearing, the Society adjourned until next convened by order of the Secretary.

J. S. NEWLON, M. D., Secretary.

CAPE GIRARDEAU COUNTY MEDICAL SOCIETY

The Cape Girardeau County Medical Society held its regular meeting at Jackson, June 12, 1916.

Dr. G. W. Vinyard read a paper on "Medical Superstitions," and showed the means by which the so-called cults, such as Christian Scientists, etc., spring up from such superstitions and fads. The doctor's paper showed considerable wit and humor also.

There were ten members present.

E. H. G. WILSON, M.D., Secretary.

CASS COUNTY MEDICAL SOCIETY

The Cass County Medical Society met in Harrisonville, June 8, with the following members present: Drs. T. W. Adair, W. F. Chaffin, H. S. Crawford, C. S. Dodd, M. P. Overholser, R. D. Ramey, B. B. Tout, and J. S. Triplett. Dr. B. B. Tout, the vice president, called the meeting to order.

The following program was carried out:

Report of Clinical Case, by J. S. Triplett.

Heart Clinic, by H. S. Crawford.

Intestinal Obstructions, by C. S. Dodd.

Report of Some Present Cases, by B. B. Tout.

Report of Case, by M. P. Overholser.

It was the opinion of all the members present that this was the best session the Cass County Medical Society ever held, and it was decided to make the clinical feature the most prominent part of all future meetings. All the cases reported were of especial interest, and every one took part in the discussions following. It was almost equal to a post graduate course. It is to be regretted that so many of our members were not present to get the benefit of such a practical meeting. We have members so close to the meeting that have no excuse for not being present and it is their loss. Others are so far away in the extreme limits of the county that it is almost impossible for them to attend.

We are sorry to learn that complaints were made that some of our members were not living up to the Principles of Medical Ethics, and the subject of taking up the matter was freely discussed. We hope that a better feeling will be established and every one will endeavor to treat his neighboring co-workers as he would wish to be treated, and each and every member will follow the teachings of the Principle of Medical Ethics.

The society decided to invite the president and secretary of the Missouri State Medical Association to visit us at the October 12 meeting.

H. S. CRAWFORD, M.D., Secretary.

CHRISTIAN COUNTY MEDICAL SOCIETY

The Christian County Medical Society met at Dr. J. W. Bruton's office in Ozark, Thursday, June 8, 1916, with the following members present: Dr. D. O. Vandeventer, president; Dr. W. B. Wasson, vice president; Dr. J. W. Bruton, secretary treasurer; Dr. R. R. Farthing, Dr. J. A. Robertson and Dr. J. C. Young. Visitors present were Drs. J. H. Wade, Ponce de Leon; L. Henson, Galena; C. E. Pierce, Brookline Station, and Dr. W. L. Turner, Galloway.

After the conclusion of the regular order of business, several cases were presented, and a very interesting paper was read.

The next regular meeting will be held at Ozark, Sept. 12, 1916, and it is hoped that the entire membership, numbering 11 members, will be present, and visitors are always welcome.

J. W. BRUTON, M.D., Secretary.

CLAY COUNTY MEDICAL SOCIETY

The Clay County Medical Society met in regular session at the Snapp Hotel, Excelsior Springs, Monday evening, May 29.

After the usual preliminaries, Dr. J. F. Binnie of Kansas City addressed the Society on "Congenital Stenosis of the Pylorus." The doctor said in beginning that the lack of understanding on this subject is a terrible arraignment of the medical profession, since it is not at all uncommon for us to meet the condition and mistake it for marasmus, gastritis, etc., and to so incorporate it in the death certificates of many infants. The doctor reported two recent successful operations in his practice, where the little patients were only a few weeks old, the diagnosis in each case having been made by the late Dr. J. E. Hunt of Kansas City. Unquestionably here were two little lives saved by capable diagnosis and treatment.

The doctor said the cause of congenital stenosis is a somewhat secondary matter in importance; it is probably due to hypertrophy of the pyloric mus-

culature. Diagnosis and treatment are of prime importance; (1) a "puking" infant; the vomitus expelled spasmodically and forcefully, often thrown out over the bedding a foot; (2) utter inability to retain nourishment; (3) a visible and palpable peristaltic wave from left to right, over the epigastrium; (4) a slight icterus may appear, with weakness and emaciation.

Dr. Binnie spoke of the value of rectal alimentation in such cases, but cautioned against delay, depending on illusive symptoms of improvement, when relapses are so liable to occur. Gastric lavage relieves symptoms. Early operation is imperative in most cases.

By special invitation, Mr. J. H. Crosby, a prominent attorney of Cedar Rapids, Iowa, addressed this meeting on ways and means to eradicate the medical malefactor, the bane of the health resort. Mr. Crosby handled the fake masseur and the "turkey-roaster" bath establishment without gloves. The puerility of the health boards to enforce laws, and the general indifference of prosecuting attorneys to this kind of law breakers received due attention.

Both addresses were discussed fully, and a rising vote of thanks was heartily given.

Were you there, doctor? The County Society appreciates your aid, and tries to make meetings worth while. If the meetings don't suit you, what kind would you prefer?

J. J. GAINES, M.D., Secretary.

HENRY COUNTY MEDICAL SOCIETY

The Henry County Medical Society met in regular session on Wednesday, April 12, 1916. The meeting was called to order by the president, Dr. C. W. Head, at 2 p. m. Those present were Drs. W. H. Gibbins, W. R. Campbell, Will P. Bradley, Ruth SeEVERS, T. A. Finley, E. C. Peelor, J. R. Hampton, S. A. Poague, A. J. McNees, Bernice B. Barr, W. M. Shankland, N. I. Stebbins, J. H. Walton, R. J. Jennings, S. W. Woltzen and F. M. Douglass.

The minutes of the previous meeting were read and approved.

Dr. M. P. Overholser of Harrisonville, present by special request, read a paper on "Blood Pressure," something of interest to each one present. The marked attention given to the reading was proof that all were pleased with the thoughts and facts shown. Discussion by Drs. Stebbins, McNees, Bradley and Walton.

Dr. Will P. Bradley, Superintendent State Hospital No. 3, Nevada, read a paper on "Mania Depressive Insanity," giving the varieties of symptoms, and many views and hallucinations evolved, how best treated and patient cared for. Discussed by Dr. Overholser.

By vote, the next meeting was set for June 7, with Dr. Peelor of Coal.

By request of the secretary, the position of honorary president was created, and Dr. Wm. H. Gibbins was elected to the place by a rising vote, unanimous.

A vote of thanks by the society was tendered to Dr. M. P. Overholser and Dr. W. P. Bradley for their kindness and excellent papers read.

A complimentary vote to Editor Whittaker for his stand against quackery in his paper was ordered.

Adjourned.

Meeting of June 7

On the evening of June 7, a meeting of the Henry County Medical Society was held in Clinton and the following resolution was adopted:

The Henry County Medical Society sincerely regrets the loss of one of their number in the death of Dr. W. H. Gibbins, he being at that time the oldest society member, having joined in 1885. He was sel-

dom absent from the meetings, taking active part in the discussions and helping with his knowledge of the subject before the society to make it interesting and enjoyable. His manner was pleasing and his words were always listened to and observed with respect. His work in the society had been for its advancement in attendance and interest of the members. He it was who caused the meeting that resulted in the reorganization of the Henry County Medical Society and our present affiliation with the State Medical Association.

We, knowing Dr. Gibbin's work and merits, had by unanimous vote elected him to honorary president of the society.

We express our deepest sympathy with the family in their great loss of husband and father.

F. M. DOUGLAS, M.D., Secretary.

JOHNSON COUNTY MEDICAL SOCIETY

The Johnson County Medical Society met in regular session April 11, at Knobnoster. The occasion was graced by the presence of several of the Pettis County Society members who accepted an invitation to be present.

Dr. C. C. Conover of Kansas City was present and held a most valuable clinic, the material for which was furnished by our "Knobnosterites," with the exception of one lonely case from Warrensburg.

Drs. H. F. Parker and William R. Patterson tied for first place in a symposium on "Ectopic Pregnancy," in which was cited a case of double tubular conception.

Dr. M. P. Shy of Sedalia gave a very interesting address on pneumonia.

A banquet was served at the Elliott Hotel at 7 p. m.

This was one of the most successful meetings ever held by the Society. A large number was present and the program was of exceptional interest. Much credit should be given to our visitors, who took an active part in the discussion. Especially should we make mention of the report given by Drs. Long and Shy of Sedalia on the intravenous injection of sodium salicylate in rheumatism, as introduced in the M., K. & T. Hospital at Sedalia. We like the idea of visiting among members of the fraternity. Local attendance is always inspired by the announcement that "We are to have company." An interchange of ideas creates interest and incites study and thought. Personally I believe that union meetings of adjoining county societies, especially among the smaller societies, might be encouraged, greatly to the benefit of medical men. Think it over, secretaries, and report.

O. B. HALL, M.D., Secretary.

PLATTE COUNTY MEDICAL SOCIETY

The Platte County Medical Society held their regular meeting at Platte City, Wednesday, June 7, 1916. Those present were Drs. G. C. Coffey, Linkville; Spence Redman and Alva Naylor, Platte City; L. C. Calvert, Weston; S. L. Durham, Dearborn, and A. S. Herndon, Camden Point; Dr. Coffey, president, in the chair.

The minutes of the last meeting were read and approved.

Dr. Redman read a paper on "Otitis Media."

Dr. Naylor read a paper on "Tonsils as a Factor in Systemic Infection."

Both papers were freely discussed and brought out several valuable points of interest.

The next meeting will be held at Weston, July 5, 1916.

A. S. HERNDON, M.D., Secretary.

VERNON COUNTY MEDICAL SOCIETY

The Vernon County Medical Society met in regular session in the courthouse at Nevada on Thursday, April 13, and had one of the best and most interesting conventions in its history. The morning was exhausted in investigating clinical cases at the local hospitals, and Dr. Howard Hill, of Kansas City, performed a gastro-enterostomy for duodenal ulcer and pyloric stenosis.

After dinner the society was called to order by the president, Dr. E. A. Dulin, and the minutes of the last meeting were read by the secretary, Dr. J. T. Hornback, which were approved.

Dr. C. C. Conover, of Kansas City, then took the floor and read a paper on "Hematogenous Infection of the Kidneys." This proved very interesting as well as instructive, and was beautifully illustrated by lantern slides showing the destructive changes resulting to this organ. The subject was further continued by a splendid lecture from Dr. Howard Hill, who very ably discussed this condition of the kidney from a surgical standpoint, emphasized by numerous pathological specimens of surgically removed kidneys showing the destructive changes in these organs.

An enthusiastic discussion followed by many of those present.

The society here was very agreeably surprised by a visit of six members of the Fort Scott (Kansas) Medical Society who were welcomed with applause. They were Doctors Young, Newman, Royal, Hopper, McGill and Cavanaugh. These gentlemen were made to feel at home with the Nevada profession and participated freely in the proceedings of the society. They were not only welcomed with the customary Nevada enthusiasm, but as complimentary of their visit they were duly elected honorary members of the Vernon County Medical Society.

Among the local profession present were: Drs. J. F. Robinson, L. H. Callaway, J. M. Yater, J. T. Hornback, V. O. Williams, G. C. Wilson, W. T. Bohannon, T. B. M. Craig, G. W. Petty, Q. M. Brown, E. A. Dulin, C. B. Davis, A. G. Althem, and J. W. Dawson.

Drs. Conover and Hill received a vote of thanks for their kind consideration and instruction.

The society, after the usual routine business, adjourned.

The Kansas City and Ft. Scott physicians were entertained with supper at the Hotel Mitchell by the local society and most earnestly invited to come again. This visit of the Ft. Scott physicians will no doubt result in an exchange of attendance between the two societies in the future and will establish a closer relationship between the profession of the two cities which will of course be beneficial to both communities.

J. T. HORNBACK, M.D., Secretary.

WRIGHT COUNTY MEDICAL SOCIETY

One of the most interesting and enthusiastic meetings of the Wright County Medical Society was held at Hartville, May 4, 1916. Members present were Drs. B. E. Latimer and A. J. Farmer of Hartville; Drs. J. A. Fuson and R. M. Rogers of Mansfield; Drs. R. A. Ryan and L. T. Vanoy of Norwood; Drs. Chas. W. Burdett and R. M. Norman of Ava; Drs. J. M. Hubbard, E. C. Wittwer, F. B. Ricketts, H. U. Daugherty and E. J. Butzke of Mountain Grove.

Dr. R. A. Ryan, the president, called the meeting to order in Dr. Farmer's office.

The minutes of the last meeting were approved as read.

Papers were read by the following:

Dr. Farmer, subject, La Grippe.

Dr. Wittwer, subject, Pneumonia in Children.

Dr. Ricketts, subject, Typhoid Fever.

Dr. Rogers and several others felt rather critical at this meeting and the papers were well prepared for discussion. Everybody felt free to tell of their failures as well as their successes. These are the kind of meetings where the doctors reap a benefit. They also feel like going again.

Dr. Fuson made a motion that Dr. Butzke act as alternate delegate at the State Meeting or appoint someone if Dr. Vannoy could not attend. Motion was seconded and carried.

The subject of asking all representatives to commit themselves as to how they stood on medical legislation was brought up and discussed.

Dr. Rogers made a motion that the secretary send the following resolution to our representatives in Congress and the Senate:

We, the Wright County Medical Society, do hereby unanimously protest the Senate Joint Resolution 120, introduced into the United States Congress, April 11, 1916, by Senator Works, of California, and ask that you use your power and influence against said resolution. Motion seconded and carried.

There being no further business the meeting adjourned until the next regular meeting to be held at Norwood. E. J. BUTZKE, M.D., Secretary.

THE TRUTH ABOUT MEDICINES

NEW AND NONOFFICIAL REMEDIES

Since publication of New and Nonofficial Remedies, 1916, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

ENTERIC COATED GLYCOTAURO TABLETS.—Each tablet contains glycotauro 2 grains and is coated with salol. Hynson, Westcott and Co., Baltimore, Md.

PETROAGAR.—Each 100 gm. contains petrolatum 0.72 gm., agar 0.22 gm. with powdered licorice, cocoa and oil of anise sufficient to flavor. H. C. Merker Co., Chicago, Ill.

PETROBRAN.—Each 100 gm. contains petrolatum 0.74 gm., bran 0.22 gm. with powdered licorice and "oil of pineapple" (ethyl butyrate) sufficient to flavor. H. C. Merker Co., Chicago, Ill. (*Jour. A. M. A.*, June 10, 1916, p. 1857).

PROPAGANDA FOR REFORM

VACCINE TREATMENT.—Hektoen (*Jour. A. M. A.*, May 20, 1916, p. 1591) traces the stages by which vaccines, which were first employed with attempted scientific control, have come into indiscriminate and unrestrained use, with no guide beyond the statements which commercial vaccine makers are pleased to furnish with their wares. Already most physicians are realizing that the many claims made for vaccines are not borne out by facts, and that judging from practical results there is something fundamentally wrong with the method as at present so widely practiced. As clearly shown by Hektoen, "the simple fact is that we have no reliable evidence to show that vaccines, as used commonly, have the uniformly prompt and specific curative effects proclaimed by optimistic enthusiasts and especially by certain vaccine makers, who manifestly have not been safe guides to the principles of successful and rational therapeutics" (*Jour. A. M. A.*, May 20, 1916, p. 1625).

ENGLISH PRESCRIPTIONS.—Bernard Fantus, professor of pharmacology and therapeutics, University of Illinois School of Medicine, favors the abandonment of the so-called "Latin" prescription. He holds that

the usual arguments in favor of the "Latin" prescription are fallacious and points out the advantages of the use of English. He concludes: "By far the most important reason for writing prescriptions in English lies in the difficulty medical students have in learning the Latin form. To the student prescription writing is a bugbear. When one thinks of the crowded medical curriculum and the comparatively small number of hours set aside for pharmacology and therapeutics, it seems a pity to waste any of it on the acquiring of an antiquated form of expression." In regard to the claim that Latin prescriptions guard a patient from knowledge which might be prejudicial, he replies: "Inasmuch as it is the popular opinion that doctors use Latin in prescription writing to keep the laity in ignorance for selfish ends, it seems high time that we antagonize this idea; and we can do this most emphatically by using English. This we can also do with perfect safety, for secrecy is very rarely, if ever, essential in the practice of the up-to-date physician, who generally prefers to take his patient into his confidence than to keep him in ignorance. Deception is not practiced by the true physician. Therein lies the special difference between the quack and the honest medical man." (*Jour. A. M. A.*, May 27, 1916, p. 1696.)

ICHTHYOL.—The American agent for ichthyol—the sole importer—announces that his supply of ichthyol is exhausted. As fraudulent substitutes are offered for sale, this state of affairs should be known to physicians (*Jour. A. M. A.*, May 27, 1916, p. 1734).

NONSPECIFIC TREATMENT OF DISEASE.—Evidence is accumulating that certain therapeutic effects ascribed to specific treatment with vaccines or serums, have been due to nonspecific effects produced by these preparations. Jobling and Peterson (*Jour. A. M. A.*, June 3, 1916, p. 1734) review the evidence along these lines. They conclude that too much reliance has been given to the idea of specificity and that we have refused to consider evidence of nonspecific therapeutic results. We should, however, not cast aside all ideas of specificity in disease, a conception which has been the foundation of vaccine therapy. Miller and Lusk (*Jour. A. M. A.*, June 3, 1916, p. 1756) in a paper dealing with one phase of nonspecific therapy, report improvement in cases suffering from arthritis following intravenous injection of typhoid vaccine. It would be of interest to know how permanent the improvement was and in how many cases the cause of the arthritis was found and removed. Also, we must bear in mind the query of Theobald Smith: How much energy does a reaction of this sort cost the patient, and is the final result worth the cost? (*Jour. A. M. A.*, June 3, 1916, p. 1784.)

A CASE OF BETA-EUCAIN POISONING.—T. G. Orr, Kansas City, Mo., reports a case of beta-eucain poisoning. Toxic symptoms appeared after an operation in which 3 ounces of a 0.25 per cent. beta-eucain hydrochlorid was used for the local anesthesia. After the toxic symptoms had completely disappeared, the patient died suddenly five days later. Necropsy showed an embolus in the left coronary artery (*Jour. A. M. A.*, June 10, 1916, p. 1857).

EFFICIENCY AND NONTOXICITY OF "ARSENOBENZOL."—Udo J. Wile, Ann Arbor, Mich., reports that during the last six months 612 injections of "Arsenobenzol" from the Philadelphia Polyclinic have been administered at the University of Michigan Hospital. Wile concludes that the immediate therapeutic results from the use of Arsenobenzol are fully as good as those following the use of Salvarsan and that, given with proper precaution, the drug has shown itself fully as little toxic as Salvarsan. The conclusions refer to intraspinal medication as well as to intravenous (*Jour. A. M. A.*, June 10, 1916, p. 1880).

BOOK REVIEWS

CANCER, ITS CAUSE AND TREATMENT. By L. Duncan Bulkley, A.M., M.D., Senior Physician, New York Skin and Cancer Hospital, Hoeber Publishing Co., New York.

An epitome of the nature, distribution and treatment of this too prevalent growth. It is in very useful and comprehensive form, and can be highly recommended. C. C. C.

GUIDING PRINCIPLES IN SURGICAL PRACTICE. By Frederick Emil Neel, M.D. Surgical Publishing Co., New York.

This is a very serviceable little book, the chapter on anesthesia being the weakest part of it. However, this subject is quite an extensive one and one can not expect "everything" in a limited article. It is well written and should be of service to any physician. J. A. C.

SURGICAL OPERATIONS WITH LOCAL ANESTHESIA. By Arthur E. Hertzler, M.D. Second edition., Surgical Publishing Co., New York.

This is a very useful book. Not only does it give a full account of the various drugs, their uses and contraindications, but it gives directions for each operation. It also differentiates between local and general anesthesia, indicating which it is best to use. It is a book that every one doing surgery would do well to possess. W. H. L.

PRACTICAL PRESCRIBING AND TREATMENT IN THE DISEASES OF INFANTS AND CHILDREN. By D. M. MacDonald, Oxford University Press, American Branch, 35 West 32nd St., New York.

This is a concise compilation of prescriptions and their use in the treatment of children. A few methods of preparing special diets, are also given. The work does not deal with symptomatology or diagnosis, except in a short well-written section on the tuberculous child. It is a handy reference for the busy practitioner. E. E. M.

COLLECTED PAPERS FROM THE MAYO CLINIC FOR 1914. Volume VI. W. B. Saunders Company, Philadelphia.

This is a collection of papers by the specialists at Rochester. The articles in the book are arranged anatomically as follows: alimentary canal, urogenital organs, ductless glands, head, trunk and extremities. Technic and general papers. There is a wealth of good things in these articles well in the van of advance in medicine and surgery, and makes splendid reading for everyone interested. W. H. L.

SURGERY, GYNECOLOGY AND OBSTETRICS, June, 1916:

The leading article in this issue is from the pen of Dr. George G. Davis, Chicago, writing on Roentgen-Ray Diagnosis of Gas and Pus Infections as Complications of Wounds with Deeply Buried Bullets or Shell Fragments. It is followed by twenty original articles, among them one by Dr. J. Phillip Kanoky, Kansas City, on Thyroid Tumors of the Bones; with Special Reference to Non-Malignant Pulsating Tumors of the Skull. Other contents are the transactions of the Chicago Gynecological Society, the Chicago Surgical Society and announcements of the Philadelphia meeting of the Congress of Surgeons of North America, October 23 to 28. The abstract department is, as usual, comprehensive. This number closes Volume XXII and contains the index.

ANNALS OF SURGERY for June, 1916.

"Treatment of Fractures by Suspension and Extension," by Joseph Marshall Flint, M.D., of New Haven, Conn., is the leading article in this issue. It is followed by fourteen papers on a variety of surgical subjects, among them being one by Dr. Willard Bartlett of St. Louis on "A Method of Facilitating Infil-

tration Anesthesia." In addition, there are the transactions of the New York Surgical Society and the Philadelphia Academy of Surgery. There is also a memorial tribute from the pen of Dr. Lewis S. Pilcher to Dr. J. Wm. White, for almost twenty-five years one of the collaborating editors who died recently. The number closes Volume LXIII which is adequately indexed.

CANDY MEDICATION. By Bernard Fantus, M.D., University of Illinois, Chicago. Cloth. Small 8vo. Pp. 81. St. Louis: C. V. Mosby Co., 1915. \$1.

The idea of pleasant medicines for children is an attractive one and should command the attention of every practitioner. The putting of the idea into practice is, however, exceedingly difficult. The one method that has best succeeded is that of Hahnemann, namely, to reduce the size of the dose until it loses its offensive qualities. The other method is to mix regular adult medicines with pleasant vehicles. Fantus has selected candies. Apparently he has worked out the problem very well. But its success in others' hands would call for less laziness and more energy than most doctors and druggists are supposed to possess. It practically means that in city practice each physician should select a druggist and have him get ready his materials and technic for the filling of prescriptions. Such prescriptions could not be sent to druggists indiscriminately. The book is priced too high for the quality of paper and the fineness of the print.

G. H. H.

ALVEOLODENTAL PYORRHEA. By Charles C. Bass, M.D., Professor of Experimental Medicine, and Foster M. Johns, M.D., Instructor in the Laboratories of Clinical Medicine at the Tulane University Medical College, New Orleans, La. Octavo volume of 167 pages, with 42 illustrations. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, \$2.50 net.

With our constantly increasing knowledge of pyorrhea alveolaris or Rigg's disease, the importance of this almost universal ailment becomes more evident. It is the duty of the medical profession to ascertain the true relationship of this condition to bodily health. Although the actual treatment belongs to the dentist it behooves the physician to have at least a general idea of what modern science teaches concerning this disease.

The authors have succeeded in presenting the subject in a simple and concise way. All the older ideas and theories have been omitted. Both the physician and the dentist will find this little volume to be of practical use. The comparatively long chapter on treatment deals principally with the methods of applying and administering the specifics—*ippecac* and *emetin*. The cuts are good and well selected. R. E. S.

THE TREATMENT OF ACUTE INFECTIOUS DISEASES, by Frank Sherman Meara. Pp. 540. 1916. The Mcmillan Company, New York. Price, \$3.

After Chapters I and II, which are devoted to the treatment of "Febrile Conditions" and "Diet in Acute Infectious Disease," each of the other thirty-three chapters is a separate essay on the treatment of a specific acute infectious disease, followed by a summary for rapid ready reference. The language is definite and terse. Constant and confusing reference to the literature has been avoided without omitting the use of proper names where credit should be given.

This book is an up-to-date presentation of the treatment of this group of ailments compiled in a somewhat encyclopedic manner. It is practical and instructive. For the student and for the busy practitioner this work provides a means of having practical and definite information where it can be found when it is wanted. It is a delight to find such a sane and rational systematically arranged book, embodying the accepted scientific methods of treatment; especially in these times of therapeutic nihilism. R. E. S.

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ORIGINAL ARTICLES

THE INTERPRETATION OF ROENTGENOGRAMS OF THE CHEST IN TUBERCULOSIS *

J. J. SINGER, M.D.
ST. LOUIS

Numerous theories have been expressed as bases of interpretation of roentgenograms of the chest, and similar pictures have been variously interpreted, each investigator proving to his own satisfaction that his interpretation was correct. A considerable amount of experimental work has been brought forward to support various theories of interpretation.

Every roentgenogram of a chest, whether normal or pathologic, will show varying degrees of shadow, depending on the density through which the Roentgen ray had to pass in order to reach the plate. A Roentgen-ray plate represents structures of varying relative density independent of the type of structure. The interpretation of the plate depends on the observer's knowledge of anatomy, physiology and pathology, and the interpretation will differ according to whether this knowledge is much or little.

INTERPRETATIONS OF SHADOWS

1. Hickey states that he found various shadows which are interpreted by some as bronchi and shadows of pleura, and by others as shadows of consolidation. In his opinion these shadows are produced by pulmonary vessels.

2. Holz knecht believes these hilus shadows are not due to pulmonary vessels, but due to the smaller vessels near plate, as quoted by Dunham, Boardman and Wollman.

3. De LaCamp says the hilus shadows are due to organs which originate in the root of the

lungs and branch out to periphery and are not due to tissues near the plate. Blood vessels might increase shadows, however.

4. Cunningham describes the tree branch striation which he noted in only a few of his tuberculosis cases. He believes they are due to distended lymphatics draining section.

5. Frankel and Lory conclude that the hilus shadow consists of blood vessels of lung and that normal bronchial arborization gives no shadow. It is possible that a dilated bronchus filled with pus may give a shadow.

6. Dunham, Boardman and Wollman conclude that the anatomic basis of shadows seen in lung fields and at the hilus in Roentgen-ray plates of normal chests is definitely settled. Hilus shadow is caused by primary branches of pulmonary vessels with contained blood and by the walls of primary branches of bronchi, together with lymphatic glands and fibrous tissue which accompany these structures and bind them together.

Remembering that the large blood vessels count for a greater part of the hilus shadow than do the parallel shadows cast by the branches of the bronchi, these bronchial shadows are a very definite part of the general whole. The shadows seen in the lung fields are also due to blood vessels with contained blood and to the walls of the bronchi. The surrounding fibrous tissue and lymphatics is normal and so slight that it probably plays little part in the productions of these shadows.

7. Sewel and Childs in their excellent work state that the skiagraphic shadows exhibit more or less areas of pulmonary congestion, denoted by thicker branches and denser arborizations of the bronchial tree. They state that shadows represent congestion and consequently suggest that localized congestion is probably tuberculosis.

Dunham, Boardman and Wollman's interpretations seem to be the most logical and correct, and in speaking of shadows in a plate I shall use their interpretation.

* Read at the Fifty-Ninth Annual Meeting of the Missouri State Medical Association, Excelsior Springs, May 8-10, 1916.

* From the Department of Medicine, Washington University Medical School.

COMPARISON OF PHYSICAL SIGNS AND ROENTGEN PLATE SHADOWS

A study of over 100 plates made from patients attending the tuberculosis clinic of the Washington University Dispensary has led to conclusions regarding their physical interpretations which form the basis of this paper.

The method of studying has been as follows: When a patient is admitted, having or suspected of having pulmonary tuberculosis, a chest chart is prepared which notes the physical findings and which supplements a description of the physical signs and history. On the following day a roentgenogram is taken and occasionally a fluoroscopic examination is made. On the third day another physical examination is made, when the plate and the chest are compared with the actual physical signs. It has been found that although the physical signs and the plate are in most cases in agreement, the plate indicates much more pathologic changes than do the physical signs. This is because slightly increased density in the pulmonary tissues is revealed by the Roentgen ray before it will alter feeble sound vibrations sufficiently to be detected by stethoscopic examination. In order to detect slight auscultatory changes I have devised a stethoscope the receiver of which is a small resonating cup made of thin bell metal. The receiver is applied to the chest so that it not only confines the feeble sound vibrations, but is itself set in vibration and consequently increases the audibility of the sounds. The faintest alteration in sounds is in this way demonstrable:

Two physical signs that have been relied on with considerable success for the localization of pulmonary lesions are localized rigidities and spasm of skin and muscles, and changes in the transmission of the whispered voice sounds. In order to elicit the first of these signs, as described by Pottenger, a certain amount of experience is required, but the plate frequently reveals that, by proper inductions from these "spastic" areas, a pulmonary lesion can be correctly localized. In the following paragraphs are given briefly the relation of the physical signs to the Roentgen findings:

1. In an area of the chest over which there is skin and muscle spasticity and in which there are diminished breath sounds and absent or diminished whispered voice sounds, the plate shows a close approximation of the linear markings of the lung (Plate 1).

2. If in such an area of spasticity there is increased whispered voice sounds, the plate shows an open area surrounded by a dense shadow with lines almost obliterated (Plate 2). This picture is taken to represent a bronchus surrounded by infiltrated tissue which transmits readily the sound vibrations set up in the bronchus.

3. If over an area of tuberculous lung the breath sounds are harsh with numerous coarse

râles and no marked impairment of resonance, we find in the plate linear markings are dense, far apart and with considerable air space (Plate 3). This shows hyperactivity of lungs, compensatory emphysema.

4. With diminished breathing with hyperresonance, the plate shows the interlobular markings far apart even in forced expiration (Plate 4). This is taken to indicate emphysema.

5. If over an area of the lung we find dulness, breath sounds faint or absent, whispered voice and tactile fremitus diminished or absent, the presence of a "Grocco," the plate shows a more or less dense shadow corresponding to the dulness; the normal interlobular markings approximated above the shadow and the hilus is compressed, just as in forced expiration. This condition is interpreted as pleural effusion (Plate 7).

6. If breath sounds are bronchial or tubular, resonance diminished—vocal fremitus and whispered voice increased over a lobe of a lung—the signs of consolidation; the plate shows densities over entire area, the interlobular lines so closely interlaced that shadow is almost homogeneous. In this dense shadow will be seen an open area, circular in outline, denoting the open bronchus (Plate 8). Interpreted as lobar pneumonia.

7. An area of chest hyperresonant, breath sounds very feeble or not heard, the metallic sound heard when the coin test is made, and dulness in upper portion—the plate shows a rather dense shadow with interlobular lines closely approximated and lower portion of chest is devoid of all lung markings. This plate was taken to show a pneumothorax with collapsed lung (Plate 10).

VALUE OF ROENTGEN PLATES AS AN AID TO DIAGNOSIS OF LUNG CONDITIONS

Bearing in mind the physical findings of a chest and finding (in a way) definite change in the plate corresponding to these findings, we should expect to be able to say that the reverse is true, that is, shadows of various types represent physical findings. If this were entirely so our work of interpreting chest conditions would be simple, but such is not always the case. Many shadows seen on the plate, as previously stated, cannot be made out by physical examination, but when seen can lead us to more careful physical examination.

Our physical examination being more or less dependent on the personal factor, there may be considerable difference of opinion. The plate, if once the shadows are interpreted correctly and uniformly by all observers, would be a great aid to diagnosis and prognosis.

Shadows, however, can be produced on the plates by other than pathologic conditions. For instance, Plate 5 taken in deep inspiration appears to be overdeveloped; the shadows as



Fig. 1.—Incipient pulmonary tuberculosis. Plate taken in inspiration. Note haziness in first, second and third interspaces in right lung due to approximation of interlobular lines.



Fig. 3.—Plate of an advanced case of pulmonary tuberculosis. Denser infiltration in left than in right—here and there air containing lung is seen. Compensatory emphysema in lower lobe. Diaphragm irregular. Note small heart.



Fig. 2.—Moderately advanced case of pulmonary tuberculosis—right lung. Note infiltration of upper lobe with more or less haziness in middle lobe.



Fig. 4.—Plate of a case of chronic emphysema interlobular lines so far apart that they are scarcely visible. Gland seen in third interspace. Note horizontal direction of ribs. Diaphragm flattened.

The illustrations represent the view as seen on inspecting the original Roentgen plate. A reading lens will bring out the detail more clearly.

From the Journal of the Missouri State Medical Association, August, 1916.



Fig. 5.—Plate of normal lungs—adult left hilus fairly dense with few glands; similar condition in right. No haziness throughout lung tissue. Ribs outlined to show pseudo-stereoscopic effect.

The illustrations represent the view as seen on inspecting the original Roentgen plate. A reading lens will bring out the detail more clearly.

From the Journal of the Missouri State Medical Association, August, 1916.



Fig. 6.—Plate of same individual showing shadows throughout lung—produced by forced expiration—the approximation of interlobular lines distinctly visible. Plates 5 and 6 give one a graphic description of lung excursion during two phases of respiration.

The illustrations represent the view as seen on inspecting the original Roentgen plate. A reading lens will bring out the detail more clearly.

From the Journal of the Missouri State Medical Association, August, 1916.

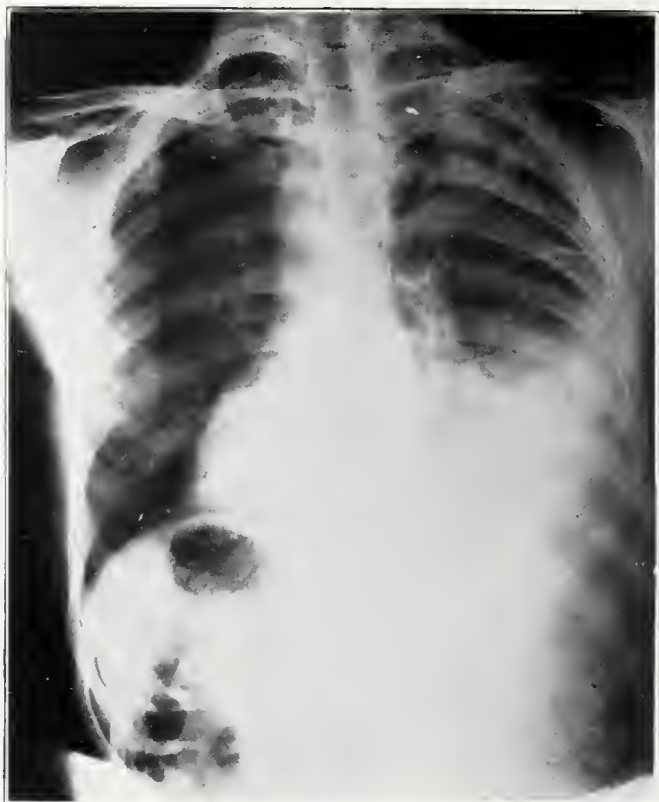


Fig. 7.—Plate of case of pleurisy with effusion. Note compressed right lung. Interlobular lines with hilus compressed by fluid (when fluid was removed, the shadow disappeared, showing condition was not an infiltration). Left lung fairly normal, except for few glands and haziness in fourth interspace. "Magenblase" seen under diaphragm.

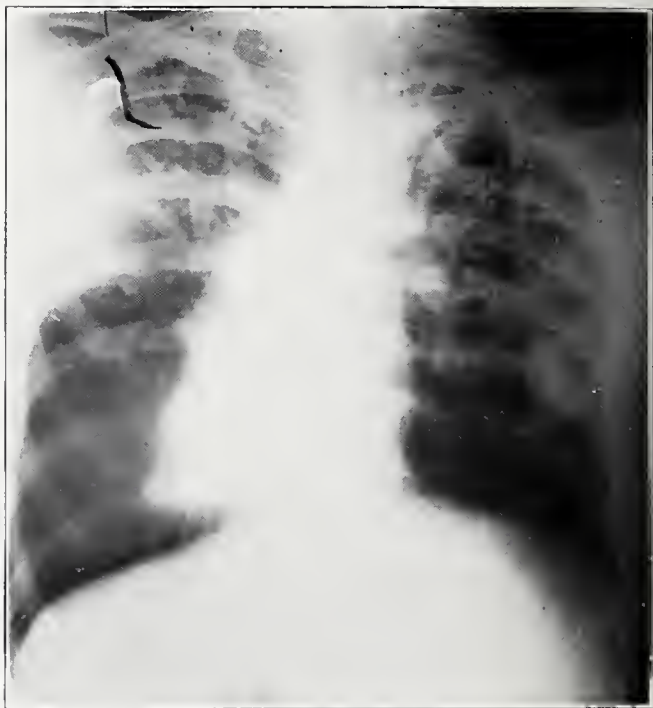


Fig. 9.—Plate of advanced case of pulmonary tuberculosis. Note cavities in each apex—older and denser infiltration of left lung—irregular heart outlines (probably pericardial adhesions, compensatory emphysema in lower lobes).



Fig. 8.—Case of tuberculosis of lung with pneumonia. Note infiltration of a large part of right middle lobe, also dark circular outline of air containing lung in center. Left lung hazy with several calcified glands in hilus.

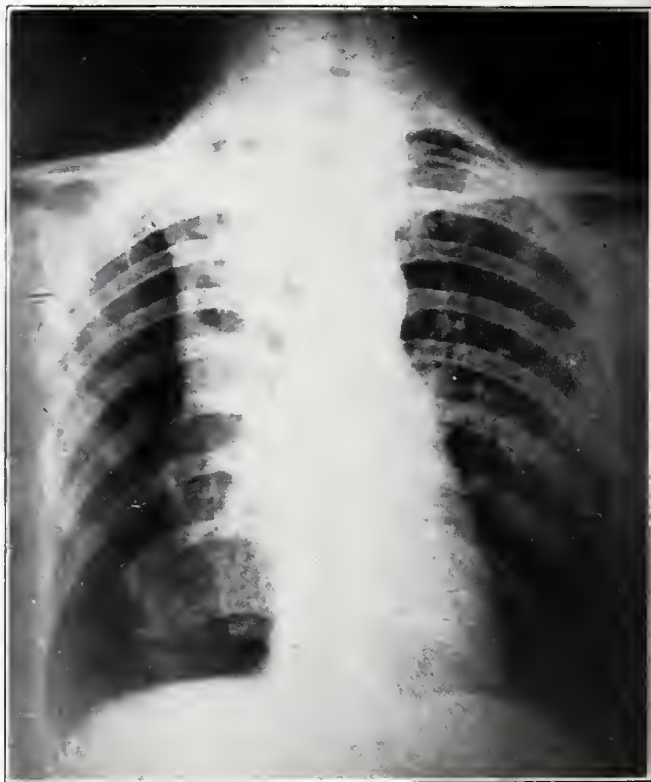


Fig. 10.—Case of pneumothorax artificial. Note absence of lung markings in lower portion of chest—almost completely compressed lung both laterally and from below. Left lung rather dense. Interlobular markings here and there. Cavity seen in compressed lung.

The illustrations represent the view as seen on inspecting the original Roentgen plate. A reading lens will bring out the detail more clearly.

From the Journal of the Missouri State Medical Association, August, 1916.

evidenced by the interlobular markings are wide apart—the air content is great (alveoli distended with air), but when Plate 6, taken of same patient in forced expiration, is seen, one sees the approximation of these interlobular markings by reason of the air content being expelled and we see a more or less dense shadow throughout the lung fields.¹

It is, therefore, necessary to see that the plate is taken only in deep inspiration—for then only the shadows seen represent areas of lung tissue not distended with air.

CONCLUSIONS

- The following conclusions can be made:
1. A roentgenogram represents one of the most accurate aids in diagnosing lung conditions.
 2. When an area of lung tissue, normally distended with air, is not distended with air on inspiration, some pathologic condition is present—probably tuberculosis.
 3. When the lung is distended with air, both in inspiration and expiration, we have an area of emphysema.
 4. The denser the interlobular markings the more infiltration.
 5. Cavities, whether filled with pus or broken down tissues, can readily be determined by the surrounding definite shadow and the absence of the interlobular markings within (Plate 9).
 6. In earliest demonstrable tuberculous condition we see delicate interlobular lines approximated and apparently are so by delicate adhesions—a provision of Nature limiting the affected area to produce rest and cure—the muscle spasm over this area is analagous to abdominal inflammation with its attendant muscle spasm.
 7. When tuberculous patients are forced to breathe deeply, by exercise, high altitudes or a rapid pulse from any other condition—air is forced into these apparently closed lobules, tearing up delicate adhesions—from this separation of the alveoli, fever results with possible hemorrhage and increase of severity of the toxemia.
 8. All plates of adults show some pathologic process which coincides well with the fact that nearly all adults react to tuberculin.

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Hamman & Wollman—Tuberculin.

I wish to thank Dr. George Dock and Dr. G. Canby Robinson for their kind assistance and encouragement.

Carleton Building.

1. The anterior ribs in Plate No. 7 demonstrate a method of showing a more correct view of the relationship of structures in the chest.

DISCUSSION

Dr. L. C. BOISLINIERE, St. Louis: It has been the general impression that the use of the Roentgen ray in pulmonary tuberculosis was only valuable in advanced cases. In other words, we have thought that in order to get a Roentgen-ray picture we must have something that would cast a shadow, but density of tissue in pulmonary lesions does not occur until the disease is somewhat advanced. We consider a case of tuberculosis quite advanced if we can demonstrate the tubercle bacilli, and we now consider a case of tuberculosis quite advanced if we can hear transmission of voice-sounds because transmission of voice-sounds means deposit and deposit means advance. So it is only very recently that the Roentgen ray has proved useful in the diagnosis of early tuberculosis. The principle on which it can be used is simply this: that where we have a diminution of function in the air cells there is probably a collapse of those air cells and the two walls coming together will make a slight difference in the shadow; or there may be the very slightest amount of exudation or deposit. Improvement in technic and apparatus has made these shadows discernible and expert technicians have interpreted and correlated them.

But, to my mind, we must still rely on percussion and auscultation to demonstrate the very earliest forms of incipient tuberculosis. By very light percussion we can demonstrate the slightest change in the lung area where the first beginning of loss of function occurs. This cannot be learned by sitting a patient on a stool and at the same time that you are percussing the lung you percuss the cellar and the attic, getting resonant sounds from all over the vicinity; and then use a big Bowles stethoscope so that while listening we get sounds coming from the adjoining localities. We must depend to a great extent on extremely light percussion; and the lightness of each man's percussion depends on his own tactile sensibilities—his power of correlation—so much so that you must use the same finger and establish an instantaneous correlation between your mind and the resulting sensations, both auditory and tactile, to be able to recognize these very slight changes.

The very earliest sign in incipient tuberculosis is something that will evidence a change in function before there is any deposit, even before the sign that was formerly so much relied on, the "respiratio granulaire" of Graucher, the little *roughened* breathing, *not harsh* breathing. If you have that harsh breathing the disease is already advanced because harshness means transmission through a denser area. But even before that you will have slight changes in diminution of respiration, or a little restriction or feebleness of respiration, or, on percussion, small areas of hyporesonance or hyperresonance. This is enough in itself for the diagnosis of incipient tuberculosis. Da Costa pointed out that one of the very earliest signs of tuberculosis was prolonged expiration over the apex of the left lung. That is true, but only partially true, because this may be a later sign. But what he did point out in regard to the earliest signs was that frequently you did have an area of emphysema, and the reason for that area of emphysema was that there the air cells had lost some of their power of contractility either from some little obstruction in front, or from the fact that they were impaired; consequently the percussion note was hyperresonant in that region, and the expiratory sound, when audible, was feeble and prolonged.

The value of the Roentgen-ray plate is growing more and more. We all know that most tuberculosis—at least it is a doctrine in many schools—starts in the hilus and spreads upward toward the apices. Now I take it, especially in the examination of children, that the hilus findings are of the greatest value, because a

child who has enlarged bronchial, pretracheal, or hilus glands, and who is in a debilitated condition, or not up to the normal, probably has not acquired enough immunity from its infection to carry it through life; and tuberculin, or proper treatment, will bring that child up to the normal when all other methods will fail.

I was particularly interested in the two plates where, on expiration, the lung gave a large shadow and on inspiration the whole lung lighted up. I had a case of this kind, brought to me from the country, in which I found some old scars in the lungs, but I could not find anything on which to make a diagnosis of active tuberculosis. However, that diagnosis had been made by quite competent men based on symptoms and positive Von Pirquet, although they themselves could not elicit any positive physical signs of activity. On making this patient cough and immediately take a very deep inspiration I did hear some little moisture posteriorly, between the scapula and the spine. I fluoroscoped the patient; when the young woman was at rest, or not taking a deep breath, you could see a slight shadow just in the area where my stethoscope had revealed a little infiltration. As soon as the patient took a deep breath, immediately that area lighted up, just like lifting a curtain in front of a lighted stage, which was conclusive to me that this affected area was not tuberculous, as the shadow lacked permanency and disappeared on inflation, but was another infection, probably a grippe infection or something of that kind, because no permanent shadow remained. There was probably a little inflammatory exudate present that was permeable to the Roentgen ray. The more we go into this, the more valuable will the Roentgen ray become, not only in making a diagnosis of early tuberculosis, but in differentiating it from other lesions.

DR. J. J. SINGER, St. Louis, closing: The Roentgen-ray examination, I wish to repeat, is only one of a number of examinations to make before you have the complete whole. In addition to having these areas of approximated interlobular lines, one must watch the temperature curve and other indications to substantiate the possibility of its being a tuberculous condition.

PARACUTIC DEAFNESS AND TREATMENT*

WILLIAM M. REED, M.D.
KANSAS CITY, MO.

This is a disease of the ear characterized by the patient being able to hear better in a noisy place, such as riding in an automobile, street car, railroad train and machine shop than when he is in a quiet place. This ability to hear better in a noise than otherwise was termed paracusis by Willis, who first drew attention to it and attributed it to looseness of the drum membrane, and it has since been called after his name. It may be very difficult to diagnose in the early stages, and the patient may have a bilateral or unilateral paracusis, and in the early stages he may not be aware of hearing better in a noise. Where the disease is pronounced it is not a difficult matter, for they will be able to tell you whether they can hear better in a

noise or not. There are four ways that may be used in a case of difficult diagnosis, first have the patient in a quiet room and apply a watch to the suspected ear and then place a deep tone vibrating fork on the vertex, this often brings on a reflex muscular action on the tympanic and stapedius muscle, and if the hearing is thereby improved the patient may be regarded as having paracutic deafness. Then we have the passive and active congestive test, also the muscular. Why they hear better in a noise is still a moot question; some claim it is due to sclerosis of the middle ear and an ankylosis of the bones and of spongifying of the bony capsule of the labyrinth, others to the excitability of the terminal nerve filaments of the labyrinth, and still others to the mechanical vibration of the bones and secondarily of the terminal nerve filaments which increase their auditory power, and as we have said, Dr. Willis believes it due to the looseness of the tympanic membrane.

Dr. Heath of London, to whom I am indebted for a great deal of my information, does not believe that much of it is due to any of the above reasons. He considers the improvement of the hearing of these patients in a noise is chiefly due to the action of the stapedius muscle in pulling on the stirrup and tightening the oval membrane, thus increasing the tension of these movable parts of the labyrinthine capsule, for there is some deficiency in its tension in paracutic deafness, except when they are exposed to noise, such a tightening being necessary in order to render it capable of vibrating properly and thus transmitting the sound waves from the bones and membrane to the labyrinthine fluid within.

Etiology.—There are various ways in which this combination of paracusis with deafness may be produced. One is by frequent and energetic blowing of the nose while holding it tightly in the handkerchief, and in this way the ears are inflated and the drum-head and tympanic joints become stretched and relaxed and the joints loosened. Massage and inflating the ears as is so often practiced these days not only does no good, but it actually does harm to the already flabby membrane and loosened ossicles. Riding on a railroad train and working in machine shops if it does not help to produce it certainly makes it worse after they have it.

Atrophy appears to be the most frequent cause of this form of deafness; the change is often obvious; the membrane becomes unduly thin and often translucent, there is a loss of substance and therefore of strength. Although at times the drum membrane may have a normal appearance, atrophy apparently affects it the least of any of the tympanic components. Gross changes are more evident elsewhere in

* Read before the Eye, Ear, Nose and Throat Section of Jackson County Medical Society, Jan. 13, 1916.

the tympanic cavity where the parts are more vascular. These patients, though they may not be aware of it, have catarrh of the nose and throat, extending up into the ear. They may have deflected septums, spurs, hypertrophied turbinates and polypoid degeneration, or sinus involvement; in fact any pathological condition of the nose and pharynx by extension will tend to produce this disease, by causing a suppurative or nonsuppurative otitis media.

Aural catarrh in its early stage, whether suppurative or nonsuppurative being accompanied by increased vascularity, swelling and softening, causes relaxation of the fibrous tympanic structures. The fibrous or muscular tissues first becomes hypertrophied and later hyperplastic, and then an atrophied condition takes place. Not only the tympanic structures, but the nose and pharynx and eustachian tube is affected in the same way. The drainage of the nose, and sinuses is interfered with, also the drainage of the tympanic cavity. The secretions become confined and undergo fermentation and decomposition and causes an infiltration and congested condition of the tissues. Following an acute inflammation of the middle ear when the active stage is over, vascularity and swelling are removed to a great extent by Nature's process; this removal may be deficient, leaving undesirable thickening and obstruction, also stiffening of the joints. It may be of the right amount and result in practically normal hearing, and the removal may be excessive and lead to atrophy and relaxation of ligaments and membrane and loss of the resistant continuity of the tympanic chain; this is by far the most frequent termination, and one that causes paracutic deafness. It is the involuntary or reflex action of the stapedius, which acting on the relaxed oval window that is mainly responsible for the altered condition leading to the change in hearing power, known as paracusis, and the voluntary action of this muscle is the cause of the improved hearing. Chronic catarrh of the middle ear, either of the suppurative or nonsuppurative kind, precedes the atrophied condition or paracutic stage. No person can hear perfectly well with the loss of the drum membrane; they may hear fairly well if the labyrinthine windows are in good condition. One of the functions of the drum membrane, and an important one, is to incase the tympanic cavity in order to prevent evaporation of the tympanic moisture, which is essential to a perfect lubrication and is necessary to perfect hearing, and in order that the tympanic contents may be sufficiently flexible. In catarrh proportionate surface moisture is diminished, and, the secretions being less watery, is necessarily more viscid. Viscidity of mucus is an obstacle to the fine mobility of the mechanical structure so light as those in the tympanum, and lack of mobility means loss of

acute hearing. The small works of a watch require a lubricant almost as thin as water, whereas that of an automobile is thick and if applied to a watch it would stop; its application to the mechanism of the ear would stop its working too and cause deafness.

The stapes and incus are most affected by viscid secretion on account of the proximity to the tympanic walls, and any restriction of their mobility from this cause must necessarily affect the whole chain.

Tympanic catarrh is not to be cured by merely blowing air into the cavity any more than a nasal catarrh can be cured by blowing the nose. We have got to treat them by producing proper ventilation and drainage. The transmission of power without loss is still one of the great problems of engineering. It is the greatest problem in otology because nearly all deafness is due to loss of power in transmission; in other words, to obstacles of accommodation, that is, to the regulated and easy passage of sound vibration along the chain of bones and membrane within the tympanum or middle ear to the labyrinth, for the latter is very rarely at fault and may be regarded as the retina of the eye. You know that there appears to be no other branch of medical science in which prominent and experienced men vary so much in their opinion as in otology; there must be something wrong in the teachings of the textbooks for they are far from being complete and are often misleading.

Now as to treatment—I have in the last year been conducting some experiments on a few patients with the treatment that Dr. Heath used some four or five years ago and from which he claimed to have gotten such universal good results. Five bottles were procured and in the first was placed equal parts of blistering fluid (liq. epispasticus) and compound tincture of lavender, the latter for the purpose of coloring. In the second bottle one of the blistering fluid to three of the tincture, the third, one to five, the fourth one to seven, and the fifth, one to nine. At first the drum head is slightly touched every day with a tiny cotton mop saturated with the weak paint 1 to 10; after reaction to this irritant had rendered the membrane more vascular, a stronger paint was used. There is in different individuals a great variability in the rapidity of inflammatory response to this treatment, therefore the greatest caution must be observed as to the strength of the paint employed. Within a fortnight a wet and whitish epithelial film forms daily on the membrane; this is regularly removed with a dry cotton mop and to the moist surface thus exposed a paint of the strength which appears suitable is reapplied.

The drumhead gradually thickens. It becomes red and gives off a small amount of discharge, and a thin transparent film forms on

the membrane, which is to be wiped off daily, if it is not it becomes dry and will be very difficult to remove, and if not removed it interferes with the daily treatment and renders it ineffective.

Further, the close adhesion of this film to the drumhead will cause it to act like a splint and thus prevent the contraction of the membrane, which is the primary object of the whole procedure. We should be very careful when painting the drum not to touch the meatus with the mop else it might cause an excoriation and lead to the production of a furuncle.

Every case is a law unto itself; some cases will react to the stimulant more readily than others and it may be that now and then we will have to use a stronger solution in order to start a reaction. However, we should always avoid excessive reaction, which we are likely to do in order to avoid tediously prolonged treatment. If we get an excessive reaction, we are liable to get a dermatitis, or if the patient catches cold it may lead to otitis media. If the latter condition, however, should arise, the increased inflammatory vascularity which it induces, proves beneficial and hastens the cure by the more rapid formation of articular adhesions. Instead of using the blistering fluid, a less irritating solution may be used. It contains an equivocal amount of active principle as the blistering fluid and equal to it in its ultimate results. It is made thus: Cantharidin gr. 1, potassium hydrate gr. 1, water 300 minims. Equal parts of glycerin and water are used when diluting the solution to the proper strength for use.

If this solution is used you may have to return to the blistering fluid (liquid epispasticus) in order to start the inflammatory reaction, which subsequently may be easily sustained by the use of the cantharidin solution.

At the beginning of the treatment we should tell our patient just what to expect, because as a rule the hearing is made worse for a short time, and unless he understands this he is likely to become discouraged and quit the treatment. We should also warn him not to take any long noisy railway journeys during treatment and more especially immediately afterwards, and prohibit the common practice of holding the nose tightly while blowing it into the handkerchief, also any form of self inflation of the middle ear.

I will not bother you with statistics, but suffice it to say that in some cases I have succeeded in stopping the distressing noises, and in others the hearing was materially benefited, while some derived no benefit. I am getting some better results lately which I attribute to the experience and better judgment I have had in treating them.

906 Rialto Building.

THE MENTAL CLINIC AND THE SOCIAL SERVICE IN THE CARE OF THE INSANE IN THEIR HOMES*

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It seems appropriate, before we enter upon the program proper, for a few moments to consider what we are to understand by that activity in the field of modern preventive medicine which has come to be known within the last few years as the Mental Hygiene Movement, a campaign for which has been inaugurated and fostered by the National Committee for Mental Hygiene and affiliated state societies. To use the words of Dr. Lewellys F. Barker, President of the National Committee for Mental Hygiene; "By a campaign for mental hygiene is meant a continual effort directed toward conserving and improving the minds of the people—in other words a systematic attempt to secure human brains, so naturally endowed and so nurtured that people will think better, feel better and act better, than they do now."

The attitude which a given community takes toward the problems of the care and treatment of the insane and defective classes depends directly upon their understanding and knowledge of the causes and nature of insanity and feeble-mindedness. If we are to believe, as has been the case in the past, that insanity is a visitation of punishment for sin, even unto the fourth generation, or that the insane person is the victim of demoniacal possession or is one invaded by a holy spirit, our belief is that of centuries ago and our treatment must, in accord with that belief, be exorcism, chains, dungeons and filth or sanctification and worship. With the advent of modern medical methods we have come to look upon insanity and mental disease in general as the expression of disorders of the functions of the brain. The insane person is not a devil or a saint, but an unfortunate human being who has become ill and therefore deserving, for humanity's sake, of all the skilled medical attention and trained nursing care that a modern hospital can provide. The jail and the almshouse are not the places where the insane can be cared for and yet too frequently such are the surroundings in which they are found.

Although we may not be surprised to read of such a state of affairs as century old history, it is doubtful if you are aware of conditions in Texas as recently reported by Professor C. S. Yoakum. I will quote a portion of his report: "Fortunately for us in Texas that Esquirol is not here almost one hundred years later to

* Read before the St. Louis Medical Society at the Open Meeting, May 27, 1916, being the introductory paper to a Symposium on Mental Hygiene.

describe the way we treat the insane in our jails and on our poor farms. There is not a part in his description that I have not seen duplicated in the jails of Texas in the year 1914. I have seen women and men with no clothing but a suit of union underwear or a single slip of loose calico or completely naked in cells where the sun never shines, or running about in corridors that looked through bars to men naked but for a dirty loin cloth; I have seen them crowded into a single cell where they lived day in and day out in close communion with filth and dirty bedding, or lying on the cold stone floors, with no bedding at all. I have seen imbeciles wallowing about together over the floors of jails, drooling and unkempt, dressed in clothing as ragged as any of the middle ages could wear; I have seen the insane and feeble-minded shut up with criminals and the prey to all the sport of such idle minds, and this in the twentieth century." Fortunately we can say that the situation is far from being this bad in Missouri though there is still room for much improvement.

It would be erroneous to create the opinion that the Mental Hygiene Movement is essentially a new thing. A century ago, Pinel, a physician in Paris, fathered the first attempt to obtain humanitarian care for the insane. During the middle decades of the last century, Miss Dorothea Dix, by a most self sacrificing personal effort, accomplished wonderful changes in the care of the insane in this country. The present movement has not yet reached its first decade in age. Its origin is due to the initiative of a layman, Clifford W. Beers, author of "A Mind that Found Itself," whose personal sufferings led him, on recovery, to devote himself to the cause of mental hygiene and who enlisted the cooperation of a group of representative men and social workers which has found expression in the voluntary formation of the National Committee for Mental Hygiene of which Mr. Beers is now the secretary. The methods of the present movement express the trend of the times. In the past, activities along this line were carried out by individual and personal effort, whereas the present movement is fostered by a nation-wide organization comprising within its ranks leading men of the country, educators, social workers, clergymen, lawyers and physicians. By this organization much good work has already been done and its rapid growth is a gratifying indication of its broadening field of usefulness.

The questions might be asked, "Why so much interest in the insane and feeble-minded?" What is the gain in trying to benefit the lot of such classes? Leaving humanitarian motives aside for the moment, let us turn to the economic phase of this situation. On the date of the last Federal census, Jan. 1, 1910, there were 187,454

persons in institutions for the insane in this country. This number exceeds the number of students in all the colleges and universities in the United States. It exceeds the number of officers and enlisted men in the United States Army, Navy and Marine Corps combined. Almost 30,000 new cases of mental disease are admitted to institutions in the United States each year. The number of hospital beds for the insane of New York City exceeds the number of hospital beds in all the general hospitals in that city. It is estimated that there are over 100,000 insane at large, who should be in institutions if proper facilities were afforded for caring for them. So much for mere numbers alone. Now what about the cost to the states of caring for these persons. The total cost of caring for the insane in the United States in 1910 was \$32,804,450 or more than it cost in any one year to build the Panama Canal (\$31,236,184). To this we must add the economic loss to the country by the withdrawal from productive labor of so many people in the prime of life. The average value to the community of an adult between the ages of 18 and 45 is stated to be \$700 a year. This means that our total loss and maintenance cost in 1910 was more than \$162,000,000, an amount equal to the entire value of the wheat, corn, tobacco, dairy products and beef products exported annually from the United States. These comparisons serve to convey some idea of the enormity of the problem and thereby its importance.

Another question suggests itself. Must we not continue to bear such an annual expense? Is it possible to decrease the prevalence of mental disease?

Certain forms of mental disease owe their origin to preventable causes. In one year in New York State more deaths were due to general paralysis, a mental disease caused by syphilis, than to typhoid fever. Syphilis causes other mental diseases also and is one of the leading causes of mental disorder. Again, almost 20 per cent. of all first admissions to hospitals for the insane are due to alcohol, another controllable cause. In other words, at least 40 per cent. of our insane population owes its residence there to two preventable causes. There are many other causes of mental disorder not so distinct as the foregoing but which nevertheless are to a greater or lesser degree controllable.

The most effective work in the prevention of insanity must be done in early life. Aside from heredity, environment is the other great factor which influences an individual's mental growth and development. It is obvious that the influence from environment will be stronger during childhood and early life and hence it is during these periods that the greatest preventive results may be expected from proper surroundings.

But, someone may say, "Once insane always insane." It is true that there are forms of insanity for which as yet no cure has been found but even many of these incurable ones may be educated to a state of usefulness. On the other hand, at least 25 per cent. recover even under the disadvantage of inadequate care and treatment as now afforded. A greater number of recoveries is the rule where the patients can be admitted to the proper hospital care early in the course of their illness and receive medical treatment and not merely custodial care after their admission. The belief that an insane person never recovers is not only entertained by the laity but also by the medical profession to a great extent. It should be remembered, too, that there are a number of insane persons who can get along fairly well outside of a hospital for the insane provided they have a certain minimum amount of supervision and have some source from which they may obtain advice and aid.

Our problems in the last analysis narrow down to two main ones—prevention, or treatment and cure. It may be well to state at this point the means and methods by which a measure of success has been attained in the past in the solution of these problems and by the continuance of which in Missouri we may hope for still further benefits.

1. By popular education as to the causes, nature and treatment of the insane and feeble-minded.

2. By the establishment of out-patient departments for mental cases in connection with general hospitals.

3. By means of social service in mental hygiene.

4. By means of after-care for patients discharged from the state hospitals.

5. By means of a properly conducted psychopathic ward in a general hospital, such as city hospitals, or better, a psychopathic hospital itself.

6. By means of a well conducted system of state hospitals for the insane.

7. By a close and friendly cooperation between mental clinics and hospitals for the insane and all other existing social organizations which have for their main object the bettering of the lot of mankind.¹

The mental clinic and the social service workers cannot reach their greatest efficiency independently of each other—the former needs some agency whereby the patients may be visited in their homes and the latter equally well needs a central point where direction and advice may be

given. In general there are two great classes of cases that may receive valuable aid through the agency of a mental clinic and its associated social service. First, there is that large group of individuals who are laboring under the burden of faulty mental adjustments and an almost equally large group showing those conditions which may be called pre-insane states and those actually suffering from mental disease. Second, we have to deal with persons who have passed through an attack of mental disease in the City Sanitarium and have been discharged from there as convalescent or recovered but who yet need aid in making readjustments to outside conditions after a period of institutional control and regime. In the first group we meet with the problems of preventive medicine, whereas with the second group we have presented to us the problems of after-care.

In the first we find individuals who come voluntarily to the clinic because they have experienced some difficulty which they vaguely realize has its origin in some unusual mental condition. Perhaps more are brought to us by relatives or friends or by other social organizations in the city the agents of which have run against difficulties which they cannot handle by their usual methods because of some mental anomaly in the subject. Ofttimes we are consulted by persons who realize that they are "nervous" and who are troubled by various obsessive ideas and fears which have become so intensive that they interfere with productive efficiency and lead to the not uncommon idea that they are "losing their mind" or "going crazy." Such individuals can very often be relieved by proper advice as to a more hygienic manner of living and working and by a total readjustment of their point of view—that is, by reassurance, explanation and a re-education of their habits of thinking and feeling. Again, a mother may bring in a child that has been acting peculiarly, has possibly become moody, eats little and sleeps poorly. We find through personal inquiry and social service investigation of the home that the environment of this child is absolutely improper; the correction of this, in addition to advice and instruction as to hygiene, and within a few weeks we find a happy, contented and bright child. Or another child presents symptoms of an actual mental disease which makes proper care at home impossible and then we are able to send that child into a hospital early in the course of the disease when the greatest good from hospital treatment may be expected. This same situation more frequently presents itself with adults, who because of mental disease or other complaints come to the clinic for treatment. The early admission of such individuals to a proper hospital for mental diseases is without doubt one of the most important factors tending to their recovery.

1. In the preparation of the foregoing pages information has been taken without specific credits from the various pamphlets published by the National Committee for Mental Hygiene.

A class of cases which presents much of interest as well as the opportunity for advice and help are those persons, juveniles and adults as well, brought to the clinic by other social organizations such, for instance, as the St. Louis Provident Association. Take the case of an individual who, after repeated attempts on the part of the Association to keep him in a position, is brought to the clinic. A careful examination shows that this individual is feeble-minded and that it had been attempted to do for him things which his limited mental stock made absolutely impossible of accomplishment. Many such well intended efforts fail of success because of this lack of recognition of mental limitations. On the other hand, some workers have come to suspect feeble-mindedness early in a difficult case. Take the case of a young girl who comes of a family respectable though in straightened circumstances. Her past record we learn has been excellent but when first put out to work she steals everything available that a girl of her age and circumstances might desire for personal adornment. Have we to deal here with a condition of feeble-mindedness or simply an isolated and correctible moral obliquity? Mental examination fails to reveal the evidences of mental defect and somewhat more careful home supervision, advice and instruction are the proper measures to pursue.

It would be possible to multiply these instances of the value of the mental clinic almost indefinitely but those which have been given suffice to illustrate the field of preventive work in such a clinic.

I wish to speak briefly now concerning after-care work with the insane. The objects of after-care are to allow the patient to leave the hospital as soon as possible, to assist in finding a suitable occupation where needed, to aid in bridging over the gap between the supervision afforded by the institution and the freedom suddenly acquired on return to the home and to keep in contact with the individual to prevent, in so far as may be possible, the occurrence of a relapse, or where a relapse is inevitable, to detect its earliest signs so that the patient may be returned promptly to the hospital for further care.

The economic importance to the municipality and state of after-care work can hardly be over-estimated. To those who are familiar with hospitals for the insane it is a well known fact that there are a number of patients confined who might be discharged if a degree of supervision over them could be obtained. In many instances the supervision afforded by the family is adequate. But who is to look out for the interests of those who have no such protection at home? Here is where the clinic and social service workers can be of value, measured in dollars and cents. By the removal of these individuals from the sanitarium the city is saved the cost

of their maintenance and at the same time a vacancy is created for another needing patient. Some after-care work is done by the resident staff of the Sanitarium but there are at least two reasons why this work should be carried out by others. First, the medical staff of the Sanitarium is quite too small to think of thrusting more duties on an already over-full day and, secondly, persons as yet, unfortunately, object to returning to the place in which they have spent weary months and where a residence, owing to the lack of appreciation of the nature of insanity by the public at large, too often conveys with it the idea of disgrace and stigma. With the permission of the director of Public Welfare, Mr. Tolkacz, and through the cooperation of the Superintendent and Staff of the City Sanitarium and of the Out-Patient Department of the Washington University Medical School, we have been able to make a beginning at after-care work in St. Louis with the mental clinic at the Washington University Medical School and by the able assistance of the Social Service Department of the same institution. Although the clinic has been in operation but a few months, the need of it and its usefulness have been thoroughly demonstrated by the amount and character of the work which it has been called upon to perform.

Humboldt Building.

THE FUNCTION OF THE OBSERVATION WARD AT THE CITY HOSPITAL *

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The observation ward at the City Hospital is authorized by ordinance No. 25,077, Sec. 760 and defined as follows:

"The Hospital Commissioner is hereby authorized to provide and bestow suitable and sufficient quarters at the City Hospital for the reception and due care of all insane persons, or those supposed so to be, who may be sent there by proper authority for temporary treatment, or for detention and observation, pending further inquiry in relation to the mental conditions of such persons." In following sections the ordinance places the treatment and supervision of these persons in charge of a resident alienist "who shall work under the direction of the Visiting Staff." Section 764 of this ordinance defines the temporary treatment, mentioned in Sec. 760, by specifying that, "within one week after the date of the patient's admission," the Hospital Commissioner shall require a report of the examination of these patients under ob-

* Read at the open meeting of the St. Louis Medical Society, May 27, 1916.

ervation and directs him to inquire into and consider all of the facts of the case and take such action as he shall deem proper under the law.

The Hospital Commissioner has power to admit to the City Sanitarium any insane person who requires restraint. Investigation is required in the case of non-residents and persons who have an estate or funds sufficient to care for them in an institution for the care of the insane. In the latter case, if such funds are available for their care, they may be admitted as pay patients. Application for commitment must be accompanied by a certificate of insanity signed by two physicians of the Hospital Department.

For the purpose just outlined there has been provided at the City Hospital two wards (a male and a female ward), situated on the second and third floors of a building completely isolated from the hospital proper. To this department are assigned resident physicians, nurses and attendants who work under the direction of the visiting physicians. The visiting physicians assigned to this service are all alienists who are engaged in the active practice of their specialty.

In 1913 the position of resident alienist was created with the idea of centralizing the supervision of this service. This resident physician is appointed after competitive examination from a number of physicians who have served two years at the hospital. After appointment he gives his whole time for a period of three years to the supervision of the psychiatric and neurologic work in the hospital.

Commitment to the observation ward is made by one of three methods: By the police, who are directed to deliver all persons taken into custody by them on suspicion or charge of insanity to the City Hospital; on request of the City Dispensary, which acts on and investigates all complaints forwarded to that division, and by transfer from one of the other city institutions. All individuals seeking the admission of a patient to the observation ward must make application through the police or the City Dispensary.

All cases committed to the observation ward must be seen, previous to their disposition, by the visiting physician and all recommendations as to their disposition must come from the visiting physician. While under observation an attempt is made to define as accurately as possible the mental condition of the patient and to decide on such other questions as may appertain to the individual case. During the stay of each patient several natural questions arise:

First, is he sane or insane?

If insane, what is the type of insanity?

Under what treatment is he most likely to show improvement?

Is he best cared for in or out of an institution?

If he needs institutional care, is he eligible to admission in the City Sanatorium?

Owing to the relatively short period of observation it is most important to determine that he is or is not insane, and to decide on the necessity for institutional care. The type of insanity is frequently not determined and consequently the probability of recovery is not definitely decided on.

The necessity for institutional care depends on other factors besides the mental condition of the patient. The ability of the family to care for him when unrestrained, the surroundings under which he lives and the attitude of relatives, friends and employer (if employed), are all conditions to be determined. It is not only the economic conditions under which a person lives that is important; it is the mental atmosphere with which he is surrounded that determines his ability to live and improve outside of a hospital for the insane.

At present the Social Service Department at the hospital is not large enough to provide a routine examination of social conditions for every case, but such an examination is made on the special request of the visiting physician.

It is safe to assume that almost every case which is brought to the observation ward presenting any marked mental disturbance would be better cared for in an institution. Proper treatment at home requires a greater expenditure of time, money and energy than the same care when given in an institution.

When it is definitely decided that care in a sanatorium is necessary, the family of the patient is given the privilege of choosing the institution in which he shall be placed. This selection depends largely on the financial condition of the patient or his relatives.

Should the City Sanatorium be chosen, application for admission is formally made to the hospital commissioner. The hospital commissioner directs a social service investigator, furnished for that purpose, to determine if the particular patient is entitled to treatment by the city. This investigation seeks to determine the residence of the patient, the financial condition of the patient or his family and the conditions under which he lives. This investigation is made concerning every applicant for the sanatorium and is submitted to the commissioner at the time of his hearing.

When a patient is transferred to the sanatorium, a résumé of the history of the case, together with the laboratory findings and any other facts of interest or note, accompanies him.

At this time the provisional diagnosis which, made by the visiting physician, is attached for the information of the physicians at the sanatorium.

The foregoing outlines the work done on the ordinary observation case. There are several classes of cases which demand special consideration and which are examined with a somewhat different object in view. There are juvenile delinquents and suspected criminals.

Juvenile delinquents are brought to the hospital with a request for specific recommendations as to future care. In order to give such recommendations it is imperative that a positive diagnosis be made. These delinquents present many types of mental conditions. So-called feeble-minded children may present any condition from idiocy to the almost normal child with a moral defect. Often normal or slightly backward children are brought to the hospital who are only the victims of circumstance and environment. In these cases an accurate survey of the mental field is necessary and any underlying cause of a defect must be discovered if possible. Mental tests are performed and the degree of deficiency noted as accurately as tests will allow. The physical examination must be as complete as possible in order to discover a physical defect which might act as a mental irritant.

When this survey is complete the visiting physician makes his recommendations accordingly. Institutional training is recommended for the epileptic and the imbecile; special schools and training for the more fortunate, and correction of physical defects and change of surroundings for the normal and backward child.

Adult offenders are transferred to the observation ward from the "hold-overs," or penal institutions, for the purpose of a mental examination. These cases require the same careful investigation as the juvenile offender. The malingerer must be separated from the insane. The insane individual must be examined sufficiently long to allow of a positive diagnosis. For this reason and because the city penal institutions are unfitted to care for this type of patient, they often remain in the observation ward for months.

Drug addicts and chronic alcoholics are often committed to the observation ward. An attempt is made to determine if the mental condition is the cause of their addiction or is secondary to the habit. If temporary treatment results in improvement the patient is kept at the hospital. If prolonged treatment is necessary and the patient has become useless to himself and to society he may be transferred to the sanatorium.

Briefly summarized, the advantages of temporary detention in an observation ward are these:

1. Instead of a jail, convenient hospital facilities are provided for the temporary confinement of insane individuals whose conduct endangers the life or property, or disturbs the peace, of their family, their friends or the public at large.
2. The patient is given the advantage and the protection of a thorough mental examination by competent alienists in a general hospital prior to confinement in a hospital for the care of the insane. This offers the relatives or friends an opportunity to make arrangements for his future care and protects the patient from commitment to an institution after dishonest representations.
3. The city is protected from individuals requiring prolonged treatment and care to which they are not entitled and those to whom care is due are transferred with a great portion of necessary routine work completed.
4. The juvenile and the adult offender are sent to the court only after an examination by trained observers who desire to recommend educational and corrective treatment when indicated rather than penal or legal.
5. Facilities are provided for treating temporary mental conditions and those induced by alcohol and drugs.

Humboldt Building.

THE HOSPITAL FOR THE INSANE AND THE MENTAL HYGIENE OF THE COMMUNITY*

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Superintendent and Resident Physician, City Sanitarium

ST. LOUIS

The City Sanitarium was first opened in April, 1869, the number of inmates being 205, of which 127 were patients who had previously been cared for at the Fulton Asylum. The number of inmates steadily grew until the population was 711 in 1910-1911. In those years the institution was enlarged by the erection of additional buildings, and several hundred patients under treatment at the various state asylums at the expense of the city of St. Louis were returned to the sanitarium.

At present the number of inmates is 2,259; men, 1,099; women, 1,160. All told, the institution has fifty wards occupied by patients and four occupied by employees. It has a capacity of accommodating approximately 2,100 patients.

* Read at the open meeting of the St. Louis Medical Society, May 27, 1916.

without congestion, and 250 employees, including officers. The grounds embrace an area of 50 acres.

The institution was originally built and conducted by the County of St. Louis and remained under the supervision and control of the St. Louis County Court until 1877, when by a provision of the Scheme and Charter it became the property of the city of St. Louis.

Since the adoption of the new charter in 1914, the administration of the sanitarium has been vested in the director of public welfare and the head of the hospital division of his department—the hospital commissioner; these officers exercising general supervisory authority.

The institution is, and has always been, in the immediate charge of the superintendent, who is, by requirement of ordinance, a physician, and resides on the premises. A medical staff, a corps of attendants, night watches and various other employees assist in the management, and all are more or less in direct contact with the patients.

As officers and employees are required to devote all their time and attention to their respective duties and are held responsible for the well-being and safekeeping of the inmates, it is obvious that the service demands only employees of proper qualifications and special aptitude for the work. As in every other calling, the higher the standard of efficiency the better will be the results obtained. The superintendent must necessarily rely on his employees; to their intelligence, judgment and trustworthiness he must look for the accomplishment of his aims and ends, and the manner in which they discharge their duties determines the measure of his success. This is especially true of attendants whose work brings them into close and intimate personal relationship with the patients.

Attendants eat, sleep and have their being with the insane, and are their daily and hourly companions, advisers and custodians. Attendants should have sound common sense, tact, self-control, an even temperament, firmness and decision, sympathy and consideration, habits of industry and sobriety, with correct principles and good manners. They should have, moreover, a fair education. Character and discipline are considerations in choosing employees for similar work elsewhere; they are particularly to be sought in persons who must, to be useful in this branch, merit the respect and confidence of the varied classes and conditions of people with whom they come in contact. Pleasant and agreeable surroundings and associations are important factors in the care and treatment of the mentally afflicted. In fact, where these are absent other remedies often fail. Yet, notwithstanding the exactions, trials and heavy responsibilities incident to an attendant's life, his salary remains as meager as it was when the insti-

tution was first opened forty-seven years ago. In spite of the fact that the institution has grown tenfold in size and importance, his pay is the same. The inadequate wage paid precludes, in many instances, the selection of the most capable persons—persons who might otherwise be attracted to this line of work. The salary should be sufficiently large to secure the best service available. The present maximum pay for male head attendants is \$30 per month; for male attendants, \$28 per month; for female head attendants, \$28; for female attendants, \$25. This scale of wages was adopted in 1869 and has never been revised.

The sanitarium is maintained and conducted by the municipality for the reception, care and treatment of the indigent insane of the city. By agreement, the insane of St. Louis County are also admitted on the order of the county court, the county of St. Louis bearing the expense of their support. Admission of city patients is through the observation ward of the City Hospital by authority of the hospital commissioner.

Insane prisoners and persons declared of unsound mind by due legal process are committed to the institution by order of the presiding judge of the court. No charge is made for treatment or maintenance except in cases where the patient or his relatives possess means to reimburse the city for his keeping. In such cases a nominal charge is made. Likewise, where relatives or friends are financially able, an agreement is entered into with them by which they are expected and required to provide clothing for the patient. Should it appear, on investigation, that the patient is not a bona fide resident of St. Louis and therefore not entitled to care and treatment at the city's expense, efforts are made to learn his legal residence and return him thereunto.

One of the most frequent comments by those familiar with the subject is astonishment at the variety of cases treated, varying to the greatest degree of extremity in age, nature of defect, affliction, etc., including criminals committed directly by the courts; others of all ages, more incorrigible than mentally deficient, from the Industrial School, Work House, etc.; insane aliens; certain transient mendicants more or less mentally defective; all ordinary psychoses; and all sickness of that number, including contagion. Careful consideration of the problem of the care of the nonresident dependent is especially important to the institution from an economic standpoint because of the possibility of indefinite residence, and should be constantly remembered in consideration of commitment. The superior facilities and equipment of a large institution situated in such a great center of population is especially attractive, not only to those afflicted and dependent, but to surrounding communities

in shifting their natural burdens and responsibilities.

Upon the commitment of a patient to the sanitarium the hospital department conducts an inquiry to determine the residence, the financial and social status of the patient, his circumstances and environment, and to procure other data of importance. A summary of this information is forwarded with the commitment papers and becomes a part of the permanent record. It would be well if these investigations were extended further with a view of gathering more reliable history. Moreover, in cases of discharged patients the investigations should be continued for the purpose of protection and assistance in reestablishing them in society. The sphere of usefulness and benefit of the institution has been increasing in recent years, as shown by the greater number of commitments. Of the 15,894 patients admitted since the opening of the institution in 1869, 3,144, or 19.8 per cent., have been admitted in the last five years.

The treatment and care of the insane in the institution varies according to the individual case and is always custodial. It may be surgical or medical in case of physical disease. Nursing is a most important feature. In other cases treatment consists in restriction and correction of excessive or improper habits and in occupation, diversion and entertainment.

Patients are classified, first, according to sex; the sick and infirm are necessarily isolated and specially nursed in well-equipped hospital wards, according to the nature of their ailments. The colored are segregated; all others are assigned and privileged according to conduct, thus establishing a merit system and endeavoring to encourage self-restraint and good behavior.

While the patients as a class are socially inadequate, many are able to enjoy all the comforts and liberties of the average citizen, and remain, while in the institution, essentially recovered. In spite of the fact that many of the patients need so much attention and care, the proportion of employees to patients is relatively very small and barely sufficient for proper supervision. This is made possible by reason of the fact that insane patients by their work contribute so generously to their own support.

There should be systematic training of employees in institutions for the insane as in general hospitals. This is especially important to the institution because there are always a certain number untrained. It would also be of advantage to the community because there is a certain demand for trained attendants for private practice, and no where else can they receive such experience.

In closing, the institution invites the interest and support of the public, and especially of the medical profession.

CONSERVATISM IN SURGERY OF THE FEMALE PELVIS

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There are two important points for consideration in this paper. First, the tendency of a few operators to sacrifice the female organs; second, the neglect by others in recognizing certain conditions at a time when results might be obtained at slight risk by early surgical intervention.

Gynecologic conservatism has come to a new understanding and is now the distinctive attitude of newer and better surgery in contrast with the widely prevailing radical methods of the past. It is now the effort to spare the pelvic organs as much as possible during operation, conscientiously avoiding the removal of any organ or portion of an organ that is sound, as well as organs or parts which though not sound may be capable of regeneration. Years ago conservatism meant that in removing a diseased ovary and tube it was not the operator's habit to remove also the opposite sound ovary and tube under the assumption that the disease was liable to recur in the opposite side.

The Reason for Conservatism.—First, it is the general attitude of all true surgery.

Secondly, the important function, and the relation of the conserved structures.

Thirdly, recognition that disease of part of an ovary, tube, or uterus, may demand the removal of only that portion which is diseased.

Fourthly, that in certain diseased conditions, as of tube or ovary, regeneration may take place and the structures again become normal in their function. A sane person would not remove an entire limb because the foot or lower extremity had become diseased, and as the principles of general surgery point to conservatism, there is no reason for making any exceptions to the rule in the field of pelvic surgery.

Limitations.—After a woman has reached the age of 40, when the reparative process is not so active and when age makes pregnancy less likely, so far as the tubes and ovaries are concerned, there may be no reason for conserving a portion of one of these which may be diseased.

When both tubes exhibit different stages of the same disease, one choked with pus and the other only thickened and inflamed, the question is more difficult, because the chances of the disease progressing in the healthier side are greater, depending to some extent on the nature of that particular infection. Also, in conditions where one ovary is affected with papilloma, sarcoma or carcinoma, or where the uterus is encroached on by malignancy, then the removal of the entire adnexa might be the proper thing for consideration. However, it is not always necessary to remove an ovary on account of

ovarian adhesions, multiple or single, graafian, corpus luteum, or dermoid cysts, tubal disease, and other like conditions.

Freund¹ reports a normal pregnancy following conservative ovariectomy. The patient had previously had one normal delivery, four years later a large hydatidiform mole was removed and each ovary was found transformed into a large polycystoma, the tubes apparently normal. Eleven days after the mole operation, the left ovary was removed entirely, and the right ovary slit down to the hilum and opened wide. A patch about 1.5 by 2 cm. in size in which the follicles seemed to be normal was found near the pedicle, and this was left while the rest of the ovary was excised, and the stump was sutured to close in the apparently normal patch. Ten months later this woman became pregnant, showing that by means of conservatism it is possible even with a large cystoma to save enough tissue for conception to occur later.

Johnson's² Method of Suturing.—Following the resection of a diseased portion of an ovary, in which he makes an elliptical incision carried down in a wedge shape into the sound ovarian structure, he resects this portion, and then uses a No. 1 plain catgut suture threaded on a straight needle, commencing at one end of the resection and passing it straight through the ovary near the bottom of the incision from side to side as a continuous mattress suture. When the other end of the resection is reached the same suture is carried back along the edges of the incision with an over-and-over stitch to the starting point where it is tied to its other end. This approximates the deep portions of the incision and prevents the formation of a hematoma.

Another class of conditions are those that are allowed to run indefinitely past the time when an operation would accomplish desired results by conserving a portion, or rather sacrificing only a portion, of an organ; and eventually when an operation is imperative the whole organ or several organs must be removed in order to save the patient's life. One of these conditions is prolapsed ovary; this condition is sometimes accompanied by a retrodisplacement of the uterus and in either case may be bound by adhesions to its abnormal position, and is not amenable to postural treatment.

Johnson³ quotes Goldspahn and Hanks as saying that 95 per cent. of prolapsed ovaries are accompanied by retroverted uterus, and 33 per cent. of all uterine displacements accompanied by prolapsed ovary.

My experience in a limited number of cases has been that where there has been a retroversion existing for any length of time the weak-

ened and relaxed supports have become elongated, and simply restoring the uterus to its normal position does not overcome the prolapse of the ovary. This fact should not be overlooked when operating for simple displacement of the uterus, as it will often be found that the patient complains just as much after operation as before.

Different operators have their choice of operation between shortening the round ligaments or the broad ligaments; button-holing the broad ligament and bringing the prolapsed ovary through to the anterior surface, as practiced by Mauclaire, or the modification of the same operation by Barrows, transposing the ovary anterior to the broad ligament, and placing it above the round ligament between it and the tube and then shortening the round ligament and broad ligaments by doubling. This holds the uterus well forward, and forms a fossae on the front of the broad ligament in which the ovary rests. Irregular flow of blood from the uterus, when the patient has been previously regular, should warn the physician of fibroid, ectopic pregnancy, or cancer of cervix, and should not be allowed to continue with simple local or medical treatment. Vaginal examination may not reveal a mass in the pelvis. The patient should be under close observation for fear of rupture in case of ectopic pregnancy.

Chronic Infection of the Uterus or Tubes, Such as Gonococci, or Streptococci, in the Form of Pelvic Abscesses.—Very often patients come to the office for treatment, their history consisting for the most part of having had periodical attacks of pain on one side or the other, chilliness, fever, etc., for a few days, followed by a purulent discharge from the vagina, after which the general symptoms, such as pain and fever, subside. They will tell you they have nearly always had a discharge, which slackens up just previous to an attack.

A pelvic abscess, if not interfered with, first may discharge intermittently through the uterus, and then rupture and evacuate itself by the rectum, vagina, bladder or through the abdominal wall. The pus may remain encysted for an indefinite period and a small accumulation become inspissated. It may entirely disappear, leaving behind a hydrosalpinx, or contracted tubes and ovaries, bound down by numerous adhesions. The cases most frequently seen by the general practitioner are those that periodically reform and rupture through the uterus. These patients should not be allowed to drift along, but should have it emphatically impressed on them that an operation is imperative. They should have been operated on just following their first acute attack, when conservatism would have promised much more permanent relief with less sacrifice of tissue, but owing to the length of time and probable numerous attacks, dense adhesions

1. Freund: Jour. Gynec., Leipzig, July 24, 1915.

2. Johnson's Operative Therapeutics, iv, 1915.

3. Johnson's Operative Therapeutics, iv, 1915.

and necroses of tissue, you cannot promise conservation for any part of the adnexa.

Laceration of the cervix is a condition overlooked by the general practitioner more often than any other. In fact, I have found in my experience that it is commonly overlooked, and is the one condition that obstetricians and general practitioners should look after as soon after parturition as possible on account of the tendency to produce cancer or nervous reflexes.

An operation for the removal of fibroid, ovarian cyst or other tumors, where there is a condition of extensive adhesions, particularly of the intestines, if the adhesions are very dense and cannot be separated easily, I think it is better to leave a portion of the tumor wall or capsule adhering to the intestine, rather than take chances on weakening the intestinal coat. And providing it leaves quite a surface, there may be a larger piece of the capsule than necessary left, which may be doubled back loosely at one point, bringing the two raw surfaces in apposition in order to prevent formation of more adhesions.

In conditions of retroflexed uterus, the adnexa adherent on the floor of the pelvis, postoperative adhesions or adhesions following pelvic peritonitis, after carefully separating adhesions, judgment should be exercised in an attempt to cover all denuded or raw surface, so as not to constrict the lumen of the bowel. The tubes should be probed through to the uterus to see that they are patent and their fimbria free, as such conditions not only have a tendency to produce sterility, but sometimes are a cause for ectopic pregnancy.

The surgeon should exercise diligence and care not only in conserving organs or tissue in pelvic operations, but should use every effort to prevent formation of postoperative adhesions, using gentleness in handling these structures during an operation, and using soft rubber-tipped forceps for lifting intestines, rather than grasping them with the fingers or pulling them around.

If necessary, I prefer moist sponges to dry ones, as less liable to abrade the tender surfaces, and prefer using large moist packs to wall off, or the Trendelenburg's position to keep the intestines, omentum, etc., back while handling the uterus or appendages. Care should be exercised to see that all raw or denuded surfaces are closed over, all oozing of blood checked, clots removed, replacing of intestines and omentum, that there may be no torsion of the omentum, and in closing the incision that it does not have a chance to become attached to the inner surface of the incision.

I have seen some very serious symptoms as a result of the latter condition, and have operated for torsion of the omentum in one case in which the patient was almost a complete nervous wreck following an operation for hernia. The

surgeon in closing the internal ring, had not been careful to see that everything was free, the omentum being caught in the ligature became twisted, causing frequent obstruction of the bowels and tension on the omentum.

SUMMARY

The points I wish to make clear are (1) conservatism in the removal of female organs, or portions of an organ, exercising judgment of course as to malignancy, age, etc.; (2) care, gentleness in the technic for the prevention of postoperative adhesions, covering denuded surfaces, and the prevention of postoperative shock, postoperative hemorrhage, etc.; (3) a plea for the recognition of conditions at a time when results may be obtained at slight risk, by early surgical intervention.

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THE CARE OF THE DELICATE INFANT DURING HOT WEATHER*

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Not only the physician but the layman as well understands that the hot weather brings special danger to the delicate child. Throughout the winter months the grip, recently styled by Hess of New York the "winter complaint," has left many of our little ones wan and thin. For such children a visit to the North is always beneficial. Let it be stated right here that the custom of a few years ago, which physicians all but absolutely insisted on, of ordering infants with the summer diarrhea taken out of the city, has suffered much in popularity. At the present time babies in the country suffering with summer complaint are brought to the city for a four or five weeks' stay to receive the benefit of the present-day dietetic treatment for this condition. This indeed is quite a radical change; the use of the electric fans, ice, and a better understanding of the chemical changes going on in the infant's bowel have made this possible.

An infant or child may owe its delicacy to a wide variety of conditions, but I will mention only those which are of most practical interest. There is a large group of infants suffering from nutritional disorders who constantly occupy the pediatricist's attention; indeed, these cases make up the bulk of his work. On the one hand, the infant may be suffering from the effects of an improper diet or an impure milk; as a result, the weight is much below normal and the bowel movements are green and chopped. On the other hand, the food may be

* Read before the St. Louis Medical Society, June 17, 1916.

absolutely pure and the formula absolutely free from any criticism, but the infant's metabolism so constructed that he is absolutely unable to convert food into structure. This class of infants necessarily requires our most earnest attention and the hot weather materially increases our difficulties. These infants are suffering purely and simply from artificial feeding and they require human milk. There is always a much greater demand for the wet nurse during the hot season, and the younger the infant the greater will be the necessity for human milk. An atrophic infant over 6 months of age can have more liberties taken with it than an infant but a few months old.

We thoroughly recognize the fact that hot weather diminishes the tolerance of the infant for food and that the tolerance of the delicate infant is lower than that of the well infant. We must provide sufficient calories, but remember the proverbial straw which broke the camel's back. Protein we can feed *ad libitum*, but with fat and sugar we must be most careful.

The past few years have seen a notable decrease in the number of cases of intestinal disturbances throughout the country; this must be attributed to the activity of physicians, the establishing of feeding stations in the tenement districts of our large cities, the widespread use of certified milk and the activities of the various societies and boards of health interested in infant welfare.

It is pretty well understood by physicians at the present time that a milk supply as pure as pure can be, is still able to induce this terrible scourge of July and August. We must be careful not only of the quality, but also of the quantity of our milk. Indeed, during periods of excessive heat, the milk for a delicate infant must be dosed much as we would dose our drugs. After the first year it is a common mistake to give a delicate child large quantities of milk in an endeavor to make it gain; such a plan will never be successful. Such a child will do much better on a limited amount of milk, on the average about a pint and never more than a quart. This is to be supplemented by thoroughly cooked cereals, vegetables and fruit, all put through a fine mesh colander.

Every well child should be considered potentially a delicate child; a very slight break in the daily routine can be sufficient to seriously undermine the infant's health. Dietetic errors, faulty ideas in regard to the manner the child should be clothed, are sufficient to bring about much harm.

The child with tuberculosis, exudative diathesis, latent spasmophilia or rickets will always be benefited by as many hours out of doors as is possible. The warm weather frequently witnesses a marked improvement in the condition

of the rickety child, due to the outdoor life. Indeed, many at the present time believe that the housing during the winter months has much to do with the origin of the condition.

A few words at this point in regard to the ventilation of the nursery will be apropos. No one would care to deny the benefit from fresh, cool, flowing air. Scientific investigation seems to show that we need not fear the effects of an accumulation of carbon dioxide; though we do not necessarily require new air, the heat of the body must be removed and, in order that the body must be able to unwarm itself, the air must be kept in motion and must be of low enough temperature. It is the stagnant atmosphere that is so injurious for our little ones. Many, many times the amount of carbon dioxide ever found in a poorly ventilated room is not injurious.

The hot days require that we give the infant's clothes special attention; the flannel band has deservedly fallen into disuse, but infants that are thin and wasted must have their body heat conserved. The hands and feet must never be allowed to remain cold. The regular use of a thermometer will be of assistance.

McClure and Sauer of Chicago have given a scientific demonstration of the important part played by clothing in the production of heat stasis. They placed puppies in incubators, the temperature of which was maintained so as to simulate a hot day, and observed that those which were blanketed succumbed, while those which were uncovered survived the high temperature.

It is necessary that the organism be kept in heat equilibrium. It is known that this depends on the proper balance between heat production and heat elimination, the former dependent in the main on the food we give the babies and their muscular activity. When we come to consider heat elimination we know that we have to do with radiation, conduction and evaporation. The infant bundled up with clothes on a hot day shows its discomfort by crying and fretfulness, as there can then be but little loss of heat through radiation and conduction. A cotton shirt and a diaper I consider quite sufficient clothing for delicate babies during days of excessive heat. Indeed, on a hot day alimentary intoxication with its high mortality can be superinduced in a delicate infant simply by an excess of clothes. A piece of canvas stretched across the top of the sides of the crib gives the infant a bed which is ventilated from all sides and has been found very valuable.

In the past six years great advances have been made in the therapeutics of summer diarrhea. Briefly, my method of handling these cases is as follows: On the first appearance of symptoms all food is stopped. For twenty-four hours I allow only a water diet; the water

is sweetened with saccharin, 1 grain to the quart if necessary. After twenty-four hours there will be a marked improvement in the condition of the baby, the nervous symptoms will have abated and the infant will be much brighter. If vomiting is an annoying symptom, lavage of the stomach with warm baking soda water, will bring relief. If the child is over 18 months of age this little operation is more difficult and is usually dispensed with. In the majority of cases the time-honored initial purge with castor oil can be dispensed with, as the bowels usually move sufficiently of themselves. However, there are cases when castor oil will be beneficial in 1 dram doses; but not to be repeated, as then it irritates the bowels and causes the secretion of large amounts of mucus. The infant is kept as cool as possible, preferably out of doors, with just sufficient clothing to keep the abdomen and feet warm. Fever is controlled by tepid sponge baths. Finkelstein's albumin milk, with the addition of 1 per cent. of a malted food, is administered, 1 ounce seven times in twenty-four hours, with saccharin water ad libitum. The food is gradually increased every other day until the baby is receiving 3 ounces for every pound of body weight; likewise the malted food is gradually increased to 5 per cent. with improvement of the condition. The rapidity of the increase of the quantity of the food will be guided by the condition of the baby and the stools. In three or four days we will see the soap stool, recognized by its putty-like appearance. This is the signal for the increase of the food. It must be remembered that we endanger our infants from inanition if we wait too long to reach a sustenance diet. It is right here that our clinical experience will stand us in good stead.

Colon irrigations are absolutely tabooed; if we desire to introduce water into the system the Murphy drip is all well and good. Drugs have little place and play a subordinate rôle in the management of this condition. Bismuth is seldom used. For prostration, whisky, well-diluted camphor under the skin, likewise caffeine. Paregoric has its place for excessive peristalsis and pain, but most cases get along without it. Tannigen in 3-grain doses is useful at times as an astringent in the chronic cases. The large majority of our cases require nothing but albumin milk properly dosed with careful consideration of the percentage of maltose. The atrophic infant and the infant under 3 months should have breast milk, beginning with a teaspoonful every three hours, increasing gradually until $2\frac{1}{2}$ ounces are fed for every pound of body weight.

The above method of treatment has given results which indeed can be called brilliant.

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THE NECESSITY FOR STUDYING MEDICAL HISTORY

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There are two paths which lead a scientist to the recognition of his true position—philosophy and experience; to unite them properly is the aim of all scientific effort.³⁶ That "history and experience are one and the same thing"⁵¹ is clear to all of us. In medicine, as in any other science, its history contains a narrative of the changes which the science has suffered.⁸ It is a long journey with many vicissitudes from the humble beginnings through the centuries of the Dark Age, with its blind magic, to present-day accomplishments in the art of healing.

The ideal condition would have history without prejudice or preferences. But human nature and human understanding have been about the same in all ages³⁵ and our colleagues of former times⁴³ "faced the problems of medicine and surgery with much the same temper of mind as we do now." With this the true competition of things before us we approach all historic matter from a viewpoint that gives the widest possible range. We know or should know human nature of the present day and ought to be guided thereby. The narration and the narrator with all of his characteristics are inseparable. One is incomplete without the other.

In the consideration of the history of any science the events, the literature, the character of individuals, the spirit of the times, the local and general necessities, and all other influences must be reviewed singly and in the aggregate. Only under these circumstances can it serve its full purpose. He who reads attentively the history of the sciences in the works of Pliny and other ancient writers will be astonished at the attainments in this study by the ancient Greeks.¹² Hippocrates wrote that a physician must know what the physicians before him have known if he would not deceive himself and others.²² In fact, "every medical man, consciously or unconsciously, bases his conceptions and their application, on those of his predecessors."⁴⁰

It is not the fault of history but the blame is on the doctors if history does not serve medicine more.²⁹ To give it its entire heuristic importance it is necessary not to limit one's self in retracing the progress of the human understanding, but to recollect the frequent retrogressions, the sudden stops and the accidents of all sorts that have interrupted its onward march.¹⁶ The material is not limited. Every deed and action that has even a distant relationship to our art is a part of medical history. Even at this moment we are making medical history,

though it may not be important enough to merit the attention of posterity.

The general indifference toward everything which appertains to the history of medicine is not as pronounced as it was a few decades ago.¹⁹ Then Puschmann²⁰ predicted that the history of our sciences will some day come to its deserved place in study and research; a more general interest is manifested in it now but that interest lacks greatly an intensity. Even in this day it is to be regretted that a few learned men still refuse to admit the utility of historical research and view it merely as a sort of amusement little deserving their attention.¹⁶ In the main their disdain supports itself in the following: "That which was best in the science of our ancestors has been assimilated and incorporated in our science. The rest deserves only to be forgotten, and it is stupid to overburden our memory with it." Such is their illiberal argument. What guarantee have we that the successive selections have been well made? As science and the points of view do not cease changing, an idea neglected at one moment might at another be considered rich and important. It constantly recurs to us that results which have long remained unnoticed suddenly become very interesting if one can only enshrine them with a new theory. All the vicissitudes and all the palinodes of science prove in a peremptory manner that we can never flatter ourselves that we have definitely and completely appreciated the value of any fact or theory. Not a particle of human experience can afford to be neglected. Affirm this and the necessity of historical research is affirmed at the same time.¹⁶

"He who knows only medicine, knows not even medicine"¹⁸ is as true now as it ever was. The history of medicine is indispensable in the critical estimation of medical conditions even of the present day.³³ All of us know that an acquaintance with our contemporaries makes their writings and their works more easily understood, appreciated and remembered. The same is true of the workers of other times.

That history is an essential study cannot be denied; and if it plays a rôle in the acquisition of a general education, why should not the medical man have a fair knowledge of the important events in the development of the art of healing? Still, this condition does not exist in our day despite the fact that most men are in a way interested in historical subject-matter to a greater or less degree according to individual taste, inclination or education. We still have among us, however, those "physicians who belittle as interfering with practical efficiency, any effort toward a broader culture, a deeper knowledge and a better understanding of the higher aims of their art and science."⁴⁰ Some of these look on medical men who possess the sense of appreciation for historical studies with a sort

of sympathetic belittlement and consider them odd but harmless characters.²⁰

History must be sought not only in ancient monuments or under the secular dust of libraries.²⁹ It is of all time, both old and new. A book which has appeared yesterday is today in its domain. He who is master today was disciple yesterday.²⁹ Rational medicine is not a finished and stable creation that has come to us from our forefathers nor is it the product of recent times. It is the result of the endeavors of thousands of years of mental activity and bodily exertion by many thousand individuals.²⁶ Like the history of other sciences, or even more so, the history of medicine presents to our view the tremendous energy expended in labor and strife to attain its present state of comparative perfection.²⁶ There is no recent development in medicine that is not in embryo in earlier medicine⁶ and the new cannot be properly understood without a knowledge of the old. The reverse is also true.⁹

Dry facts and figures may be enlivened by bringing out their comparative relations¹⁹ and the popularization of historical substance also has its benefits. Take, for instance, the mythologic story of the discovery of the action of hellebore and its subsequent application. It is one of many which can furnish good and wholesome entertainment combined with a definite amount of instruction. Melampus, a shepherd, noticed the purging action of hellebore in his goats. He put his observations into practice by administering to the three daughters of Proetus the milk of goats shortly after the animals had eaten this herb. The ladies were cured of a mental ailment that caused them to believe they had been transmuted into cows. Mythology attributes this affliction to the anger of Bacchus, inflicted upon those who pretended to surpass Juno in beauty.¹¹

Most of us are only a small part of our period of time and are soon indistinguishably blended with it, but a genius on the other hand is of all time. He will remain a special feature among his surroundings ever afterward. Whether or not the period in which he lived be of historical importance his biography will be a guide for posterity. "Every noble life leaves the work of it interwoven forever in the work of the world."¹ Every great work is inseparable from those who accomplished it. The record of both is usually given to the future.

With instinctive interest do we look upon the true or faulty likeness of the masters. Every one has experienced an agreeable sensation when looking at a good likeness of one who has contributed to the welfare of humanity.¹² There is no real difference between a graven or painted image of a great man and the word picture of his biography, except that the latter enters more deeply into details and takes us on a longer stroll through the life of the individual, while

the former presupposes such knowledge for its proper appreciation.

By our acquaintance with the career of others, great and small, we are put in a position where we can judge of our own fitness or unfitness to practice medicine and shown how we may improve ourselves.³⁷ Nothing is more apt to awaken the critical understanding of a student than a detailed history of a discovery, showing him the obstacles which constantly arise in the path of the searcher, how he triumphs over them or winds around them and finally nears the goal without reaching it.¹⁶

Hippocrates, Aurelius Celsus and many others of antiquity cherished with great piety the memory of the great physicians of the past.⁵ Almost every really great figure in history has shown more than a passing interest and respect for those of the same occupation who lived and worked before his time. Personal characteristics have often kept an individual in obscurity during his lifetime; and the same cause has at other times so overshadowed his work that it remained hidden or unappreciated until long after his death. The true importance of a discovery or a new principle has in many instances required years and even centuries for its acknowledgment and recognition. So history has often compelled us to admire and honor men who had been unknown or misunderstood in their own time.¹⁶

Medicine is and always was a part of a general culture and the higher the plane of the latter the better was the former.²⁶ In no department of medicine or its history are we even today so far advanced that we could present anything of positive permanence. We arrive at this conclusion by the repeated perusal of the history of the healing art during late years.²⁷ Changes in our views are frequent. Tons of paper are constantly printed and bound into books. All the different motives embodied in their production cannot be recognized. The entire output must be preserved for fear of the loss of an essential point which might be found by proper persons of future days and then attain its deserved application.

I believe there are still some few among us who have not heard of Jacob Bigelow's discourse on "self-limiting diseases,"⁴⁶ and many who have never read it. Oliver Wendell Holmes³ calls it "An address which can be read in a single hour, but the influence of which will be felt for a century." Such a statement cannot help but arouse us to search for it and appropriate its contents with its far reaching influence. There are hundreds of other chapters of equal merit in the literature of by-gone days.

"History of science is none other than a method of research for the growth of scientific conquests."¹⁶ By instructive examples it shows us the path which we must follow.³⁵ To understand and appreciate the true value of that which we learn it is indispensable to ascertain

what those who preceded us knew. This is the one valid truth in all spheres, in science as well as in life. Acquaintance with history reveals to the scientist his exact position in regard to problems which he has to solve and which permit of being mastered.¹⁶ What would religion be without its history? Would we have a high regard of a clergyman who knew little of church history? The education of no professional man is complete without a knowledge of the history of his profession, be he clergyman, statesman, soldier, physician, or what not. Even Rhazes⁴ writes of the past as follows: "He that industrially studies those authors, will, in the short period of life find out as much as if he had lived a thousand years himself, and employed those thousand years in the study of physic."

"Wer kann was Dummes, wer was Kluges denken, Das nicht die Vorwelt schon gedacht?"¹³

Our ideas are rarely if ever original with us. They have almost always been thought out many times before. The influence of the period and local environment produces some variations and these may even hide the essential matter from the view of the casual observer. Nevertheless, it is true that much of what has been taught as new was known before, though possibly in a less complete form.²⁰ That which was worth knowing was not all transmitted from one generation to another. Useful facts and methods have often been forgotten or lost. Some of these were found again and taken up anew, others were rediscovered or reinvented. A Salernitan script mentions capsules of a glutinous substance to enclose medicaments with a disagreeable taste.²⁹ Then comes a long period of time without any distinct attempt to enclose substances of a bad taste by means of this kind. Gluten wafers and gelatine capsules are inventions of very recent times.

M. Langier reinvented a cataract operation which was described by Abulcasis.²⁹

A certain amount of clinical and technical information is surely necessary for the appreciation of historical matter. But medicine and all intellectual science is in need of history. The natural sciences in the eyes of some individuals may seem able to ignore history because the methods of observation and experiment seem to suffice in attaining knowledge. The why and wherefore of many a manifestation, however, needs a comprehensive knowledge of by-gone times for its complete understanding. There are few phenomena which are so independent as not to have a direct relationship to some generality. Past events frequently have a direct bearing on the present.¹⁹

The knowledge of historical detail has an interest which serves the practical purposes of a calling. Much unnecessary drudgery and bitter disappointment would be saved if it were constantly kept in mind. Many a fact which modern medicine claims as its own was known

to those who preceded us by hundreds and thousands of years.¹⁹ A few additional examples may assist in fastening this fact in our mind and corroborate the good sense contained in them. May they also serve to illustrate the general nature of men and things.

The observation of Paracelsus regarding visceral syphilis had been forgotten until Ricord again took up the subject.²² John Hunter did not believe in visceral syphilis. He thought all venereal disease was one affection, with only different manifestations. Also that "lues venerea" was the cause of other diseases.²³ In 1838 the celebrated Ricord announced that the secretions from secondary syphilitic lesions were not infectious. During the following decade or two it took the successful inoculation of seventy-seven cases by nineteen investigators to show that Ricord was wrong. Ricord would probably have not made this mistake if he had known the history of syphilis, the writings of late Middle Ages, the work of Paracelsus, as well as later works.

In 1742 the medical faculty of Paris declared that rhinoplasty was impossible. In 1794 an English journal brought the news that this operation had been successfully performed by the Aborigines in India. This led to the improvement and perfection of the operation.²⁴ All this without taking cognizance of the fact that Tagliacozzi's book,¹⁷ "De Chirurgia curtorum per insitionem," appeared in 1597. In Samuel Butler's *Hudibras* of 1663 we find the statement "Taliacotius . . . cut supplemental noses." Butler knew it, but the doctors had forgotten it.

The contagiousness of tuberculosis was taught in Hippocratic times. Later it was ignored and again adopted in recent years. Ligation and torsion of blood vessels and flap amputations have a similar history. The same may be said of version for anomalous positions of the fetus.

The ancients also used a fat which was prepared from the wool of freshly sheared sheep. This preparation was reinvented by Liebreich about 1885,⁴⁰ and is called lanolin.

J. C. A. Recamier did not know that the ancients had used a vaginal speculum. If he had there would have been no need in 1806 of his reinventing it;³⁰ nor would the improvements by Ricord, Segalas, Mayer and others have been necessary.¹⁷

For fear of being boresome it is best not to prolong this list of illustrations to an undue degree. The following story, however, is of such recent date and so directly illustrative of the argument that it cannot be omitted. Eugene Bouchut (1818-1891) was one of the great pediatricians of the nineteenth century. Active as a teacher, experimenter, historian and clinician in the hospitals of Paris, he came near perfecting, in 1858, instruments designed for the purpose of intubating the larynx of children

afflicted with croup. About 1885 the late Joseph O'Dwyer of New York, succeeded in devising his well-known intubation apparatus. While he was experimenting, O'Dwyer happened to speak of his hopes in this regard to Abraham Jacobi.⁴⁵ He was told "I hope you will be more successful than Bouchut." Not having heard of his celebrated French contemporary, O'Dwyer inquired. "Who is Bouchut?" Thereupon he was directed to the literature, which he read. Then he exclaimed: "I have lost four years. I never knew." He modified his apparatus after the method of Bouchut and soon was successful.⁴⁹

Every chapter of historical matter is teeming with interesting fact and useful information; and "the slow unconscious toil of centuries prepares the ground upon which the genius of the discoverer establishes the temple of new truths."²⁸ We quote again from the pen of the immortal Goethe, who was a natural scientist of the first rank:

"Wer nicht von dreitausend Jahren sich
Weiss Rechenschaft zu geben,
Bleibt im Dunkeln, unerfahren,
Mag von Tag zu Tage leben."

The most prominent characteristic of the professionally narrow and mechanically commercial doctor is his horror for medical history.²⁶ Such a man disregards its undoubted influence on general culture and intellectual development. In his "narrowness" he cannot appreciate its contribution to his fitness as a physician;³⁵ nor can he recognize its usefulness as a pastime for the leisure moments of busy men.¹⁰

The history of science like general history is an instrument of culture. She makes one familiar with the idea of evolution and the continual transformation of things human. She makes us feel the relation and the provisional character of all our knowledge. She sharpens our judgment. She teaches us that, though certain audacities are permitted to humanity as a whole, even the greatest among us must be modest because each plays but a very small part in the collective work. She contributes to form scientists who are not only scientists but who are also men and citizens.¹⁶ History rounds off and completes an education and must not occupy a too subordinate position. She makes "a young man to be old without either wrinkles or gray hair."¹⁰

Although it is of distinct advantage to have a working knowledge of a number of ancient and modern languages, these are not absolutely essential because there are many translations for the use of those who cannot read the originals. It is unusual, however, to encounter any one who has occupied himself to any extent with historical matter who does not have a longing to master languages not already at his command; and, in almost every case, this desire leads to some effort in that direction.

A man of less than average ability may become a very good doctor if he applies himself diligently and faithfully to the work of healing the sick. On the other hand, I know a number of men who possess an excellent general and medical education who are poor practitioners, but I am certain that each physician in these two classes would be greatly benefited by a certain amount of study devoted to the history of our calling.

It is not true that the average doctor has no time for other literature than that which is essential to keep abreast with the times. In the study of medicine in general it is useless to devote a great deal of time to irrelevant and unimportant detail. The man who can select the fundamental principles and essential points saves a lot of time.

It is true that a medical historian has rarely proved to be an experimenter and a pathfinder, but almost all representative medical men have possessed a more or less complete knowledge of the history of our art.²⁶ Only one who is well informed with contemporary knowledge can have the proper interest in history. Only the experienced surgeon can appreciate the history of surgery and give it deserved attention.³⁴

Medical history is no study of recent date. Hermippus and Histomachus of the ancient Greek Dogmatic School were authors of works on the history of medicine which are now lost.¹⁸ Andreas of Carystus (B. C. 210) wrote, among other things, on the history of medicine.¹⁷ In the time of Greco-Arabian medicine (eighth to tenth century) study of the science was well cultivated. The most famous medical historian among the Arabs was Oseibia (1203-1273) of Damascus.¹⁷ His "Biography of Distinguished Physicians" treats of Arabian, Persian, Indian, Egyptian, Christian and other medical men.

From the Middle Ages we have nothing on this subject. A century or two later we find it revived and thereafter comes a long list of students of the history of medicine. Among these we have Joh. Neander (B. 1596) who wrote about 1623: Ph. Jac. Hartmann (1648-1707) who wrote on the "Anatomy of the Ancients;" Solomon Cellarius (1676-1700) who was the author of the "Origenes et Antiquitates Medicinæ;" and Joh. Conrad Barchusen (1666-1723) with his "Historia Medicinæ."

A very important and comprehensive work based on the original authorities was written in 1696 by Daniel Le Clerc (1652-1728). It was illustrated and passed through several editions. John Freind (1676-1728) began his work with Galen (where Le Clerc had stopped) and continued it to the beginning of the sixteenth century.

Then follows an eighteenth century list composed for the most part of Germans. This nation has since then produced the majority of medical historians and celebrated practitioners

with historical tendencies even to the present day. Probably the most noted of these are: J. K. W. Moehsen (1722-1795); the learned Albrecht von Haller; the great J. F. Blumenbach; the famous K. P. J. Sprengel and the noted Antoine Portal. During the nineteenth century the number of investigators in the field of historical medicine became quite large. The greatest among the French was M. P. E. Littré (1801-1881). Among the Germans there were August Hirsch, master of Hygiene and History; Ernst Gurlt, surgeon and historian; Theodore Purschmann, and a long list of others. Then there are a goodly number who were greater in other branches of medical science but whose historical contributions were of the first order. Without arrangement in regard to nationality we might mention: Eduard Albert, Julius Hirschberg, Karl von Vierordt, and his son, Hermann, Hugo Magnus, Robley Dunglison and his son Richard J., Oliver Wendell Holmes, Sir Benjamin Ward Richardson, Samuel D. Gross and J. Marion Sims. If these busy doctors found time for the history of their profession what excuse have we for neglecting it? Even to the present day we see that the men who are at the very top in professional attainments have the same inclination. Roswell Park and N. S. Davis practiced medicine and wrote on medical history. The speeches and essays of Weir Mitchell, Welch, Jacobi, Mumford, Osler, and Senn contain much historical matter. Harvey Cushing, William Osler and others have large historical libraries. They believe that it is wise to "save all our old treasures of knowledge, and mine deeply for new."³

To be able to read original text in the works of the masters is an especial advantage which receives too little recognition from the large majority of doctors. John Radcliffe, while he lived the foremost physician of London, one morning called on Richard Mead, who was then still a young man. Mead had been reading Hippocrates. Radcliffe said: "What! my young friend, do you read Hippocrates in the original language? Well, take my word for it, when I am dead you will occupy the throne of physic in this great town."¹⁴ And he did. The same Radcliffe has also said: "As I have grown older, every year of my life has convinced me more and more of the value of the education of the scholar and the gentleman, to the thoroughbred physician."¹⁴

Every age ought to benefit by the experiments whether successful or otherwise of preceding ages.³⁹ Our truths of today may tomorrow be considered as complete mistakes or at any rate as incomplete truths.¹⁶ In all things human or of man's creation it must be kept in mind that there is as much difference in the creation as in the creator. Every one has his mode of thinking and fashions his observations in his own

way. Temperament is the boundary line for limitless variety and change.³⁶

For the medical man there is no better training than a knowledge of the history of his art.²⁶ Not to the neglect of contemporary knowledge and achievement, for that is also a part of history; medicine should be taught and studied from an evolutionary standpoint¹⁰ and followed up to the present moment. Some of the larger systems of medicine and surgery contain a chapter on the history of medicine.^{2, 4} Though these are, for the most part, very superficial narrations which touch only the "high places," they still show us that the author thinks the subject sufficiently important to warrant that much space among the directly practical chapters. There is no doubt that only he who is interested in the history of a subject is sincerely interested in the subject itself; on the other hand, only he who is acquainted with the past can always know how to appreciate the deeds of the present.²⁵ Erudition is more of an incumbrance for those who do not possess it than for those who know how to apply it. The same is true of history.²⁹

Historical publications are of the greatest value⁴⁰ when critically studied and combined with a thorough knowledge of contemporary science. "Nothing fortifies the judgment more than this comparative study; impartiality of mind is developed thereby, and the uncertainties of any system become manifest. The authority of facts is there confirmed, and we discover in the whole picture a philosophic teaching which is in itself a lesson; in other words, we learn to know, to understand and to judge."⁴⁴

There are many who would apply history in much the same fashion as a boy who arrogantly disdains his parents because he has acquired a bit of knowledge in a pedantic manner.³⁸ This sort of individual often changes his attitude after he has really received an education. "The well-educated medical graduate of today could give Haller valuable instruction in each of the branches of which he was professor."⁵² Still, there have been few if any physicians more learned than Albrecht von Haller. Since his day, however, knowledge has greatly increased in amount. Oliver Wendell Holmes expressed very appropriately an idea which fits into this text at this point when he said: "Men were not all cowards before Agamemnon, or all fools before the days of Virchow and Billroth."³ Where there is lack of historical fact and criticism, superstition prospers most.¹⁹ In history we frequently see old fallacies reappear in new dresses.³⁵ This knowledge can only make us more charitable toward the opinion of others and also toward the medical efforts of the laity.²⁶ Many a popular lay remedy was at one time or other used by scientific physicians. Even the history of metaphysics which may not have

a direct practical application explains to some extent some of the present day fallacies.³⁰

Thus history may prevent one-sidedness in our criticism.¹⁵ It can throw a bright light on present-day science and awaken germs that lie hidden under the ruins of former times.³⁵ "There is a dead medical literature, and there is a live one. The dead is not all ancient; the live is not all modern."³ Research has even shown mediaeval medicine to be not as dark as had been supposed.⁴² No scarcity of material confronts us in the study of the history of medicine. There is and will probably always be an abundance of that. The subject is alive and will remain alive. Every newly broached hypothesis should be treated by a comparison with doctrines of a similar nature advanced in former days.³⁹

Right now when tissue is made to grow after removal from the living body and the transmutation of bacteria marks our progress which is ever more rapid, it is necessary that we should be most thorough in our work and studies. We should remember that the activity of the individual is not always an index of his real worth, and that "our actual progress is by no means in proportion to the work done."⁵²

In concluding this modest effort a few general statements of the advantages of the study of history may be admissible. Medical history is necessary for the completion of a general education, for the fixation of technical knowledge, the prevention of professional narrowness and the ennobling of character.

All human history is but the history of yesterday.⁵ No matter how remote, its bearing on us is the same. It broadens the view and may prevent error by the examples of the past.³⁶ It sharpens criticism and avoids the blind belief in authorities. At the same time it protects against self-overvaluation and conceit. It enlarges the conceptions of life far beyond the limits of professional activity and proves conclusively that the sum total of knowledge is not the property of the present.¹⁹

May we soon see the day when those who look on a historian with "sympathetic, mildly benevolent belittlement"²⁰ shall have disappeared and when a knowledge of medical history will be part of the mental equipment of all physicians.

Metropolitan Building.

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FETAL VS. MATERNAL IMPRESSION *

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It is a great privilege to a part of us that we are allowed to address this gathering on the topic of maternal influence. The only value a paper of this sort may have is that it makes for expressed thought in the form of a discussion and I trust it will be permitted. I would state in advance that the essayist always enjoys a number of advantages over his hearers. First, he is usually more interested in what he has to say than is his audience; second, he may exer-cise and keep the blood to his brain while the audience is supposed to maintain a reasonably resigned calm during the infliction which in turn makes for drowsiness; and third, as any preacher may tell you, folks are difficult to keep awake after one reaches one's fifthly. You may remember that Christopher Sly was in a state of inhibition when the players produced the "Tam-ing of the Shrew." In other words, he was intoxicated when he said, "It is a good show. I would it were well over." I would reassure you that I will be brief and in so far as possible, for we are all creatures of habit, avoid the poly-syllabic and technical jargon with which the scientist is wont to clothe his ignorance.

The human being differs from the animals in a number of ways and two of these are both obvious and important in our present discussion. First, the human being has a much tougher fam-ily history than any animal, and, second, man is really twins. The family history demands but little and expurgated comment. Had our for-bears not been of so sturdy a strain, rigorously selected through myriads of generations, the present degree of domestication, pardon me, civilization, would never have obtained. There was a time when we were not so thoroughly and superficially civilized, and with our advance came a number of attendant evils. The medical profession, for example, was not the least of these. Please notice I used the hopeful past tense because the doctors of today seek out the disease that they may prevent it rather than treat it.

This adjustment of environment to the indi-vidual represents intelligence because mind must make a suitable place for the body to live in, work in and die in, otherwise in spite of the aforementioned hardy forebears the goblins of disease would have gotten us long ago. Hence I state the dual nature of man. Once on a time the body ran the performance according to cer-tain rules known as instincts; next came a reasonable balance between mind and body in the times long past; and lastly, the mind devel-oped rapidly and the same old body followed at

* Read before the Miriam Lodge of U. O. T. I., February, 1914.

a respectful distance. Now the mind acts as the big brother to the body and orders it to do those things which it deems best for the twins. That the mind has a tremendous influence over the body is generally accepted and even Empedocles has so far registered no objections to Mrs. Eddy's rediscovery. Miss Brown, for example, returns from a long shopping tour and her body has carried her about all day long quite uncomplainingly and telegraphs up that perhaps it is time for a little rest. Miss Brown, however, has already accepted an invitation to a dinner dance and so she pours several cups of coffee into her body by way of argument. Now it so happens that Miss Brown, as an expression of pride in her body, has adorned herself with shoes which are a half size too small, and although her feet are already showing evidences of hard usage from the days' tour, she takes them upstairs and soaks them in cold water so they will fit. Now while Miss Brown has hardened herself to the call of her feet, the feet have grown callous to the machinations of these and other shoes. The dinner dance proves to be too much, for the callosities cannot withstand the pressure and the feet put Miss Brown to bed next day and the twins rest. The former part of this illustration is a victory of mind over body and the latter part is the triumph of body over mind.

Perfect health has been erroneously defined as a perfect unconsciousness of self, or in other words, a body not interfering with its mind; but this is hardly true, for a body may be about to die and the mind not be aware of impending dissolution; or an off-colored mind may take a perfectly healthy body to the doctor to have it poked and thumped because something must be wrong. I would therefore emphasize that man is really twins and it was for this reason that I said it is a great pleasure to part of us that I am permitted to address you this afternoon.

If one realizes that the animal is guided by instinct and that these instincts are wished onto it by heredity one cannot look with humor on the seeming anguish of the hen when the products of her incubation take to the water. She laid eggs; she sat on eggs; and here is a product entirely beyond her instinctive control. Nor is the human being devoid of instincts, either in his fully developed state or in his babyhood. Doting parents usually discover sparks of genius in the offspring within twenty-four hours, but these may be regarded as effervescences of an exalted mental state. The scientists do not credit a baby at birth with any intelligence because intelligence is after all only a reflection of what has been appreciated. The baby at birth is not conscious of the objects around it. Yet if we lay the baby in bed on its back up go the hands and feet. If you place your forearm the length of its body the hands

and feet will clasp your arm just as the baby monkey clasps the body of its mother. The thumb to the mouth on touching hair is an instinctive reflex probably a perversion of the nursing function. These observations have not been gleaned through the writings of a learned spinster nor have they been deduced through study with a microscope. They represent paternal impressions which came to me in the long and not over silent watches of the night.

The fur-bearing animals to which we belong as a class, nurse their young, hence the name mammals. This means in a word that the offspring are *not-done* at the time they are born in the sense that other animals are done, but must live for a given length of time on a diet modified by the mother. This modification of diet is not paralleled in the remainder of the animal kingdom. The offspring must be nursed for a reasonable length of time until it can adjust its incompleting body to subsist on the diet of the parents and, with the exception of the human being, inability to nurse the young equals elimination. This, however, is quite a different topic, and I merely call attention to this fact that although a diet is modified for the young in the breast of the mother, the young must work over this diet to make it acceptable to its bodily needs.

The transition from a relatively self-sufficient chick to the condition in the higher mammals is by no means sudden. The chick's egg is endowed with sufficient yolk and white to enable the chick embryo to develop to the condition familiar to us. The lowest mammal also lays an egg; incubates it; and when the young emerges it must be nursed to complete its development. The next step is a reduction in the amount of nourishment and an internal incubation where the embryo does not establish any more adequate attachment to the mother than does the chick to the shell. It is born in a very rudimentary condition and is placed in a pouch and nursed to what would correspond to completed stage. I refer to the kangaroo for example. The next step comes in the retention of an almost microscopic egg and a parasitism of the embryo on the mother so that it withdraws all of its nourishment from the mother's blood until a properly developed stage is attained. This gradation of the developing mammal in reference to its source of supply is very important and will answer a number of questions for you later on if you will but bear it in mind.

We may now approach the alleged doctrine of maternal influence, and perhaps no better beginning can be made than to define what I understand constitutes this doctrine in order that we may not quibble over terms. The maternal impressionists hold that the expectant mother may influence the development of her unborn child. This I take it is an insult to mothers in general by implication because all of us, on this basis, ought to have been prize specimens. The

only other way is to throw the blame on the father through the medium of heredity and to this I personally offer a 50 per cent. objection. What this maternal influence may be is not revealed to us, but it is granted to be present and the cause may be psychical or physical, so they say. I do not know what factors might have to do with the production of something I do not understand, but of this I am quite certain, that if psychical and physical sources may produce a marked infant here is an example which will not: Mrs. Blank, expectant mother, is driving in an automobile to see her sick sister, and the automobile is run into by a fire engine so that she is thrown violently to the gutter under the hoofs of the horses. She will not give birth to a marked child. The baby has tucked itself safely away from harm and is copying a picture of its heredity. The circumstances may result in the death of Mrs. Blank or in the direct death through violence of the child or to a breaking of the bond which ties them together, but the baby will not be born with clubbed feet; or with flame mark or the word fire engraved on its skin, nor will it imitate the automobile cutout. I trust I do not mince words when I say, "Is there any such thing as maternal influence?"

The greatest difficulty in discussing the doctrine of maternal impression has come through trying to show how impossible such a teaching is rather than analyzing the evidence which gives birth to the myth. In other words it is up to some one to prove that an influence may be conveyed from mother to child other than through heredity. Let us therefore examine into the evidence to see if maternal impressionists really make a case. Whose authority are we to accept? Let me illustrate: "His hair turned white in a single night." I might dilate learnedly until doomsday on the physical, chemical, histologic and physiologic impossibility of this trick, but there is an easier way to answer it. The German anatomist Stieda has failed to find a single authentic case. Therefore I assume his hair didn't turn white in a single night, just as I assume the moon is not made of green cheese. If I were to stand here and say there is no question but that the sun goes around the earth, you would all be moved to either laughter or pity, but the first man who denied it took his life in his hands because it is so obvious. We accept the fact and we regard it as a joke on our senses. It may be that many of you do not know any more about the proof for this phenomenon than I do, but authorities seem to agree and they explain away a number of things on this basis which would otherwise be unexplained. At any rate, the public is being educated to know that they must not believe all they see and hear.

The authorities for the doctrine of maternal influence may be classed under three groups of

incompetents: first, the clergyman; second, the lawyer, and last, the physician. The minister does his best to keep alive the possibility of maternal influence through misinterpretation of the book of Genesis and the experiences of Jacob and his remarkable cattle. The lawyer with trained elasticity of mind will dilate on the pros or cons of a certain proposition, depending on which side he is retained, with remarkable and commendable self-effacement of personal judgment. His authority is therefore to be challenged. The physician unfortunately uses maternal influence as synonymous with expediency or as a blanket to cover his inability to explain the facts on any other basis. Maternal impression must therefore be analyzed from a biologic viewpoint, and it is in this capacity that I take a verbal broom to stem the tide of superstition with about as much result as the famous Mrs. P. I will therefore consider with you the evidences for the doctrine by citing the best cases I can find; next I hope to show several obvious flaws in the logic of the proposition; third, I will bring forth certain biologic data on the subject, and finally I will propose a pseudohypothesis of my own which is scientifically reasonably sound, although it may appeal to you as very absurd. I will group the stellar cases which prove that an influence is exerted by a pregnant woman on her offspring in the hope that you may pigeon-hole the cases you personally know about into one of these classes. All of you have suspicions and some of you convictions regarding instances which have come into your own experiences. Some of these I cannot explain away and would therefore call them coincidences, and lest you misunderstand me I would tell you an experience of my own which I will propose for your explanation if you object to the word. I have had in my life six very close friends. Four of them were born on January 6; one on January 7, and one on January 8. Now have I a subconscious predilection for people born on January 6, or have people born on or about January 6 a curious influence which impels them to be friendly toward me, or what? You may manufacture your own third possibility and I daresay it cannot be disproved. I choose to call it coincidence rather than habit, and it may be that whatever friendliness you may show me is due to the calendar rather than the message I hope to bring.

1. "Dr. Napheys tells of a woman, the wife of a baker, who during the earlier months of her pregnancy sold bread over the counter. Nearly every day a child with a double thumb came in for a penny roll, presenting the money between the thumb and forefinger. After the third month the mother left the bakery, but the malformation was so impressed on her mind that she was not surprised to see it reproduced in her own child." Dr. Napheys' report is quite

excellent, but had the gentleman been as skeptical as the writer, knowing that double thumbness is extremely uncommon, he would have anticipated an equal sensitiveness of other women in this locality to respond and would have inquired into what explanation the woman who was mother of the first-named child could give. This type I label *bona fide* maternal impression—conscious type, and on the basis of January 6 I choose to also call it a coincidence; the more so because Dr. Napheys lost the chance of his life to check on the first mother and to report the excesses of double-thumbness in this village.

2: "We have heard of a mother who gave birth to a child that had but one hand. The other arm was handless as if amputated between the elbow and wrist. The only way she could account for the deficiency was the fact that her husband's brother, who had his hand amputated, lived in the same family during the earlier months of her pregnancy. While she received no special shock, being familiar with his condition, yet maternal impression continued through a long period had its disastrous effect." Dr. Stall remarks on the case in a sort of wonders of Nature tone that the subconscious condition may after all be as potent as the conscious. Dr. Stall admits he never saw the case and "the only way she could account for the deficiency" reflects sadly on the brains of the family physician. Dr. Stall himself is a minister. In other words, if you cannot find a suitable causal factor by which you may explain the defect in a child it means that the second type of maternal influence was at work—the alleged *bona fide* maternal impression of the subconscious type. When you couple this report with the failure in defect of the children of war veterans you may draw your own conclusions as to how seriously the evidence may be taken.

3. "An instance came under by observation but a few years ago in which the boy of the family had fallen from a banister of a porch some 8 or 10 feet to the ground below, where his head came into contact with stones inflicting a large gaping wound of the scalp. The mother had it to care for until my arrival. In a few months (seven, to be exact) she gave birth to a child with spinal defect that soon extended to the head causing hydrocephalus and death of the child." This case was reported by an Ohio physician to show how weak was my contention in a previous article on this problem. In answer I can say that even Goethe himself misunderstood the morphology of the skull bones and believed them all to be modified vertebrae and the error on the part of the child under the circumstances is quite excusable for, as Dr. Blondel said nearly 200 years ago, "the child is not yet acquainted with the outward objects that disturb the mother." This type I called missed maternal impression because the child did not register the impression received by the mother.

The later death from hydrocephalus in a child born with spinal defect is not unusual.

4. "On July 2, 1884, she gave birth to a full-term male child on whose chest there was a peculiar mark similar in size to the apple which was thrown at the patient, but rather paler in color. She then remembered the circumstance (being hit by an apple on the previous October) and connected the impression and the mark as cause and effect." Dr. Ballantyne, who reports this case in his article on maternal impression, says he does not believe it to be a strong case; to which I agree. As evidence we cannot accept it any more than we could accept the statement of several individuals on beholding a well-filled wallet—"it's mine"—as conclusive proof of the pocketbook's collective ownership. This type I place along with the majority of reported cases in the so-called postpartum maternal impression cases where a mother on beholding a marked child remembers the circumstances which must be held accountable.

5. Twins occur about once in eighty-eight births, and therefore reports as to how twins behave under these circumstances must necessarily be quite infrequent. Wüstnei, however, cites an instance. He tells of a woman who was accustomed to taking her nap with her forehead against one of those tall porcelain stoves. She later gave birth to twins and a long mark was found down the forehead of each. The case is very meagerly reported, but I would suggest that a mark down the forehead of each child would lead a skeptic to examine the birth canal of the mother for a bony prominence in the pelvis. This is the only case of marking twins I have been able to find, and I will class this type as nonselective maternal impression, because both twins were marked, as opposed to the next possibility type, 6, selective maternal impression, where only one of the twins was marked.

6. I have found no cases reported of this type, either because it never occurs or because it does not strengthen the case of the maternal impressionists. However, I can cite cases of similar nature in animals, and can do better than that; I can cite the notorious Siamese twins, who were males and begot normal babies; and the more notorious Balzac twins, who are united females and one of them gave birth to a normal baby. It would seem that here was an opportunity for an infant to be thoroughly impressed, both with heredity and the other kind, and in neither instance did it rise to the occasion.

7. The last variety I would classify is what I term threatened maternal impression—where the child is so diligently copying the family tree that it refuses to register the distress of its mother in any way. You will all remember the Messina disaster, and yet the report of confinements of women who were pregnant of this time shows but one abnormality and in a woman

who was pinned down for many hours with a heavy beam over her abdomen. Indeed many women who had aborted spontaneously before this disaster were so badly shaken up that they succeeded in carrying their children to full term. Bischoff could not demonstrate a single case of maternal impression in 11,000 confinements; and William Hunter says that during many years every woman in a large London lying-in hospital was asked before her confinement whether anything has especially affected her mind, and the answer was written down. It so happened that in no instance could a coincidence be traced between the woman's answer and any abnormal structure; but when she knew the nature of the structure she frequently suggested some new cause. To this I would add the summary of Mauclerc: "Do we not know how shy women are in confessing their longing? They never will own on the spot that they longed for such a thing. It must be presented before them as if we knew nothing of their desire. And if they are so unwilling to confess their longings and affections before the effect, why may they not be sometimes as backward to confess them afterward? Certainly some women are such unaccountable creatures that no more stress can be laid on their denials than their affirmations." I would state the writer quoted has been dead over a century.

These, then, are about the best cases I can present to you and it is upon the report of such cases and weaker ones that the doctrine of maternal impression rests. The reason I consider the instances I have mentioned as strong cases is because they include the element of time. You will recall that I said a child was busy copying the picture in the family album. It is *very* busy at it, and while we might grant it would interrupt its development, particularly if it is an accommodating child (which most of them do not appear to be, even after birth) one could hardly expect that it would unravel all it has done for the convenience of a weak hypothesis. In other words, if a mother purposely sets out to mark a child with the usual major defects like harelip, cleft palate, cat's eyes, clubfoot and the like, she must have her maximum influence on hand well before the end of the second month of gestation or it will be too late. If you couple this with the fact that majority of women do not definitely know they are pregnant until this time had elapsed you will appreciate why the time element alone will rule out a large majority of all cases of maternal influence resulting in alleged physical defects. I would therefore hold out the first beam of light in this gloomy doctrine. Mothers, if you must impress your babies with a physical defect don't begin after the second month, for it will avail you naught.

I am now prepared to present a case of maternal influence which is better than any I have

reported thus far and will show how an explanation is not always forthcoming. In discussing this very topic with a class of students in Indiana one young man presented himself with the following: He had a small pit just in front of his ears and his mother accounted for it from the fact that the hired man on the farm had similar defect and that she had worried about it. Lo, and behold, when he was born he had the defect. There was no history in his family of similar defect and his brother and sister born after him were normal because the hired man had been discharged. He smiled when I told him there was a possibility of this defect from the development of the outer ear and that the defect arose spontaneously. He replied, "Do you believe that will convince my mother?" Two years later he again reported to tell me that his sister had a baby out in California, and they had named it for him. After they had named it they found this baby also had a little pit in front of each ear and the mother sent word that she believed now I was correct when I told them that it was a little sporadic developmental defect which may come up at any time.

The second obvious flaw in the logic of the doctrine is that because a woman is sensitized to the child the child is necessarily sensitized to the mother. The child withdraws the nourishment from the maternal blood, but it must be worked over in the membranes of the child before the child uses it, just as the milk of the mother must be digested and assimilated before the child can use it. There is no circulatory connection direct as such; there is no nervous connection; and to say there can be no functional connection is absurd because the mother might wireless it down to the child. I do not want to gainsay this unknown possibility because I need it in formulating my pseudohypothesis.

The biologic side of this question needs but little discussion and I will present it in a word. If an expectant mother goes to the sideshow and sees a two-headed steer, worries herself sick over her indiscretion and finally gives birth to a two-headed baby, the biologist wants to know *what* the cow saw. All the defects which are attributed to maternal impression are also found in mammals. The sow can even do better; not infrequently she seems to exercise a selected impression and blasts one or two of her piglings. The chick, and more particularly the duck, commonly show defects. Can the maternal impressionist logically assume that the cause lies inside the egg in one form but outside the egg in another. Is the hen that sets on the eggs the mother of the chicks or the hen that lays the eggs? And what if they be duck eggs?

One way of settling a debated question is to offer a substitute motion. I therefore take the liberty of giving you a new and a better doctrine if you need any at all. I have called this a

pseudohypothesis and am proud to be the parent of it, for no matter how absurd it may be I defy any maternal impressionist to prove me wrong, and my proposition covers all the facts, whereas theirs does not. You cannot prove that a child is sensitized chemically to the mother, but you can prove that the mother is sensitized to the child. If we take a male animal and inject a suspension of fetal membranes, after a given time the male will respond to the serum diagnosis of pregnancy.

Now the baby happens to develop a defect which I can show may appear in any animal, may not the defect in the baby so sensitize the mother that she will be more readily frightened at an object with a similar defect. In other words, if the pregnant woman goes to the zoo and finds the sight of the camel is particularly offensive to her, is it not possible that her unborn child has a hare lip, for example. I did not believe I could find a case which would make this absurd pseudohypothesis account for something which the maternal impressionists could not explain but reports of any old thing may be found if one searches industriously and here it is: Wüstnei reports a case where a woman gave birth to a child with a sort of tumor on its pelvis. The baby died on its attempted removal, and when the tumor was opened a second child, or fetal part, was disclosed. She then remembered that during her pregnancy one of her geese gave birth to a double gosling which she brought to the house for her little girl to play with. Presently the double gosling became hateful to her and she was forced to dispatch it. Now the maternal impressionist must explain what the goose saw to give rise to a double gosling, and this they cannot do. While my pseudohypothesis explains why the double gosling became hateful to the woman. In some mysterious manner the doublebaby sensitized the mother and subconsciously affected her psychically through its very doubleness so that she reacted to the afflicted gosling (sic).

Maternal influence therefore does not make a case. The strongest arguments it can bring are its antiquity, its ubiquity and its iniquity. The antiquity harks back to Jacob and consists in misinterpretations of the Old Testament. The ubiquity is also easily explained in that it would be strange indeed if similar superstitions did not arise even in remote peoples on the birth of a child—particularly an abnormal one. The iniquity of the doctrine consists in an attempt to make Mrs. X. responsible for a mentally, morally or physically misshapen child, or a mathematico-musico-poetic prodigy by reason of some influence she has exerted during her pregnancy and without giving Mrs. X. the opportunity of defending herself. We hark back to the two points I tried to make in this paper. We come of a tough ancestry and the offspring wraps itself safe from harm and copies the fam-

ily history. It is idle to suppose that any accidental factor enters into its development. The second point was the dual nature in man. There is no animal that suffers the bodily inconvenience in pregnancy that is the lot of the human female and this is due to irreparable lack of adaptation to the upright posture. The mind merely accentuates the inconveniences of its body. The twins are hard enough to keep at peace as it is and to couple to this a doctrine which will make a woman all the more unwilling psychically to fulfil Nature's second law is nothing short of criminal. The divorcing of mind and body is bad enough as it is without adding to it this additional burden.

The birth of a child is attended with much mystery and the physician realizes this full well. When the doctor is asked, is the child to be boy or a girl, he either finds out what the parents want and tells them the other or says one thing and writes another in his case record. The human being is not without his superstitions and P. T. Barnum, who capitalized credulity, ought to be credited with some word of authority, when he said, "The public likes to be humbugged." It may be perfectly fair to humbug some one else but it is manifestly unfair to humbug one's self and particularly one's mind with anything like a false doctrine which brings nothing but distress. It is not necessary for me to disprove maternal impression because I do not see wherein there is anything to be disproved and on the whole I regard it as a lame excuse and an admission of ignorance. Let us assume for peace of mind that the other side of the moon is about like the side we see until some one can furnish reasonable evidence that it is different. We are all of us sure of things which are by no means facts because we do not take the trouble and time to analyze them. It has neither been my mission nor my intention to make fun of those who are firmly convinced that maternal influence exists, and if I say in closing that the only harm they will ever do is to the peace of mind of an expectant mother, I am merely reflecting my own personal equation. The mystery does not consist in trying to find out why a few children are born with defects; the real mystery lies in the ability of a single fertilized egg to go ahead with nothing but the family history as a guide and come out of it all with anything like the perfection it does.

The only experimental data I can offer is on my own family. All during the expectant days of my first three children I talked lefthandedness to my wife; after they were born and their little nervous systems responsive I tried to develop lefthandedness, but in spite of all this maternal and paternal impressing the children have declared themselves after the fashion of the family—and then I gave it up.

St. Louis University School of Medicine, Grand Avenue and Caroline Street.

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EDITORIALS**MENTAL HYGIENE IN MISSOURI**

In the July issue of the *JOURNAL* mention was made of the formation of the Missouri Society for Mental Hygiene. For some years past it has been recognized that the insane and feeble-minded were most properly wards of the State. However, the problems of the needs and care of this class of dependents, and their relations to the family and community, and particularly the study of causes and prevention have heretofore been left very largely to societies or individuals who give their time to this special work. This manner of initiating any movement for the care of the insane and feeble-minded has been the means by which we have attained our present development of state care in Missouri. How far from satisfactory this care is to-day was actively discussed at the Excelsior Springs meeting of the Association and resolutions were formed looking to the betterment of state hospital administration.

It is only recently that we have begun to understand the insane and therefore to realize that their cause should be brought to the attention of the public and the interest of the taxpayers thus aroused. We must cease looking upon "insanity" as an incurable affliction which "just happens" without cause or reason. We must realize that the insane person is sick and needs and deserves the most skilled medical attention and nursing care that modern medicine can provide. Therefore, to bring this about becomes the duty of the medical profession at large and thus it is particularly fitting that our Association should have taken cognizance of this duty by its official action at the last meeting. However, experience has taught us that there are points from which the insane may be viewed other than the purely medical. Proper social and moral surroundings must be provided not only for the person who is predisposed to become insane but as well for the one who has recovered and has returned to the community.

Here we pass over into the field of social psychiatry, a field which in the year or so past has sprung deservedly into a sudden prominence

and importance. Because of this large social aspect medical men alone cannot well handle this enormous problem and cooperation with more purely social agencies is of paramount value. The action of the Association and the formation of the Missouri Society for Mental Hygiene are steps in the right direction to better conditions in our own state. It is the particular purpose of the Missouri Society for Mental Hygiene to carry on a campaign for popular education as to the causes, prevention and care of the insane and feeble-minded by means of pamphlets and public lectures, and thus to arouse interest to create a demand for psychopathic wards in general hospitals, to inaugurate social service work among the insane and to work for the enactment of legislative measures tending toward a betterment of present conditions. Organized effort to accomplish this is as necessary as has been the case in other fields relating to public health and welfare where the most successful results have been achieved in recent years.

The importance of the movement at once becomes apparent when one considers the great groups of people who will be benefited in one way or another by organized work in mental hygiene. Among these we may mention the insane, the feeble-minded, those addicted to the excessive use of alcohol and drugs, the epileptic, and that large numerically uncertain group of people who, through mental causes, are unable to adjust themselves to their environment so as to live happy and efficient lives. Regardless of how we measure the problem of mental health, or mental ill health as it might more appropriately be termed, it is without question one of the most important problems of the day. Before existing conditions can be intelligently benefited it is essential that a knowledge of their limitations be had, and to obtain this knowledge a survey of the state offers the best opportunity. It has been generally believed, and this belief has been shown correct by the National Committee for Mental Hygiene, that the widespread lack of interest in the subject was largely due to ignorance of existing conditions. Therefore it becomes evident that the education of the public at large is an essential in order that supporting interest may be aroused.

A step in this direction was taken by the St. Louis Medical Society by holding an open meeting before which addresses on the subject of mental hygiene and especially the situation in St. Louis were presented. These addresses by Drs. Barnes, Bliss and Johns appear in this issue of the *JOURNAL* and set forth the situation as it is in the St. Louis municipal institutions as well as the work which may be accomplished by cooperation with other educational or social organizations.

THE STATE'S INTEREST IN HER FUTURE CITIZENS

Every particular division of welfare work merges into the broad general field of public health. In the matter of protecting child life there is no more important phase than that which relates to health and sanitation. Every measure which safeguards the health and happiness of children lays the foundation for strong and healthy future citizens. That the importance of this has been recognized by the Missouri Children's Code Commission is shown in its preliminary report which has just been made public. The commission, of which Judge Rhodes E. Cave of St. Louis is chairman, and Manley O. Hudson of the State University is secretary, was appointed in 1915 to recommend to the Missouri Legislature in 1917 a complete code of laws relating to children. It is composed of twenty-four men and women interested in the welfare of the children of Missouri who have volunteered their services in this work. The money for the necessary expenses of the commission was raised by subscription. Subcommittees on public administration, delinquent children, defective children, destitute and neglected children, child labor and education, health and recreation and present laws, have submitted their recommendations which are embodied in this report.

The report contains a plan of the proposed organization of state and county agencies dealing with the health and welfare of children. County boards of public welfare administering all forms of social work carried on by the counties under the direction of a county superintendent of public welfare, are recommended.

Broader powers for the state board of health are advocated, as is the establishment of a state board of medical examiners to grant and revoke licenses for medical practices and to enforce medical practice laws. The committee on health and recreation urges that medical examination of school children be made compulsory throughout the state. The licensing and supervision of all child-caring institutions and maternity hospitals by the State Board of Charities and Correction, these agencies being subject also to the inspection of the local boards of health, is referred to as an important feature of the state's work in behalf of its dependent children. The dangers of unsupervised practice of midwifery have been appreciated and legislation providing proper measures of control has been included among the recommendations.

Home life and a mother's care is assured the fatherless children of dependent women of Missouri if the state-wide mother's pension act is enacted.

A state-wide juvenile court act (extending the system now in force in six counties) and recommendations for increased facilities for wholesome recreation, are among the remedial

and constructive measures in the interest of juvenile delinquents.

The proposals of the committee on defective children outline a complete program for the care of the state's feeble-minded and epileptic. It includes legislation authorizing the legal commitment of feeble-minded persons when necessary (after certification by qualified physicians) and the establishment of a state psychology bureau. Adequate facilities are urged for the care and training of the feeble-minded and the epileptic in separate colonies, schools and custodial institutions.

The final report of the commission will be published in September, when an active campaign for the enactment of the code will be undertaken.

In formulating this report the commission sought the assistance of our Association, which it is needless to say was gladly extended through our Council of Health and Public Instruction.

SOCIAL INSURANCE

One of the important reports to the House of Delegates of the American Medical Association at Detroit was on social insurance. This report was largely statistical, and presented in a very comprehensive manner the workings of social insurance laws (or health insurance, as it is sometimes termed) as established in Germany and England, where the system has been in force and given satisfaction for several years. The report indicated that this method of dealing with health problems will soon become a general practice in this country, and therefore the medical profession should be prepared to adjust itself to the new conditions. Says a recent bulletin from the American Association for Labor Legislation:

"In response to public interest in health insurance the Massachusetts legislature has created a commission to study social insurance with special reference to sickness. The state department of health and the bureau of statistics are directed to cooperate with the commission of nine members, which will prepare a report and recommend the form of legislation to be introduced in January, 1917. California has a similar state commission already at work on this problem, which is attracting wide attention since the introduction this year of bills for health insurance in Massachusetts, New York and New Jersey. Proponents of this legislation believe it will bring about a movement for 'health first' comparable to the safety-first campaign which followed workmen's compensation for accidents."

The American Association for Labor Legislation has given much study to health insurance, and has prepared a tentative bill for introduction in state legislatures which represents the most practical measure that has been constructed for inaugurating health insurance as a state law.

WORKMEN'S COMPENSATION LAW

Distinct from the operation of social insurance laws is the workmen's compensation law. The former embraces insurance against sickness of all kinds wheresoever contracted, while the latter is limited to insurance against accidents sustained in the course of employment from a cause arising out of the employment. A workmen's compensation bill was introduced in the last legislature by a committee appointed by the senate of the Forty-Seventh General Assembly, but it failed to pass. At the coming session another bill will be introduced and in all probability it will become a law.

The persons chiefly affected by the workmen's compensation law are the employers, the labor associations, the medical and legal professions and the insurance companies. Representatives of these bodies are now giving serious attention to the draft of the bill to be introduced in the Forty-Ninth General Assembly.

The present law in Missouri is the old common law system which was developed before the steam engine was invented. Under it the basis of liability is negligence—that is, in order to hold the employer liable the injured workman or his dependents in case of death, must prove that the injury or death was caused by some particular negligent act of the employer; and if no negligence is established no damages can be recovered. And even if negligence is established, the employer can defeat the action by proving one or more of his three defenses, which are that the injury or death was caused by the contributory negligence of the injured employees, or by a hazard that was necessarily incidental to the employment the risk of which was assumed by the employees, or by the negligence of a fellow servant. To establish this negligence and meet these defenses the employee or his dependents must employ a lawyer and sue the employer in the courts.

Statistics very clearly show that a certain number of accidents occur each year in every industry and that the percentage of accidents is quite constant from year to year. By changing the basis of liability, by removing the defenses, by furnishing the parties with a definite measure of damages, and by providing a commission to settle disputes, the workmen's compensation law eliminates all matters of dispute which make necessary a court proceeding and leaves nothing but a few simple matters which can be easily determined by the parties themselves; and for those matters which cannot be so determined the law provides a commission whose procedure is so simple that the parties themselves can bring their differences before it and obtain prompt justice.

The medical profession is of course interested in all phases of a workmen's compensation law because the doctor is involved from sev-

eral standpoints, but our chief interest lies in the schedule of fees allowed for medical aid. The framers of the bill are endeavoring to draft a law that will make the industries bear the burden of their accidents and distribute the cost to the consumer of the products without doing violence to the principles of justice and fair dealing with any individual. Dr. Robert M. Funkhouser of St. Louis has been appointed by our President to represent the Missouri State Medical Association in this work. On another page* we publish an article on the schedule for medical aid written by Mr. Alroy S. Philips, a member of the Senate Commission on the Workmen's Compensation Law.

WHO IS A DISPENSARY PATIENT?

In a recent article* Dr. Borden S. Veeder of the Washington University Medical School attempts to answer this vexing question. Veeder states that no previous attempt has ever been made to standardize dispensary patients according to their financial condition. A committee composed of Miss Julia Stimson, Dr. G. Canby Robinson and Dr. Borden S. Veeder studied this question carefully and submitted figures representing actual family needs, according to size of family. Statistics from reliable sources were freely drawn upon. Four classes of dispensary patients were made as follows:

Class A. All patients are admitted to the dispensary whose maximum earnings are as follows:

- Single men, \$9.50 per week.
- Single women, \$8.75 per week.
- Man and wife, \$12 to \$13 per week.
 - with 1 child, \$14 to \$15 per week.
 - with 2 children, \$16 to \$17 per week.
 - with 3 children, \$18 to \$19 per week.
 - with 4 children, \$20 to \$21 per week.
 - with 5 children, \$23 to \$25 per week.

Class B. Those who can pay for medical services in minor illnesses but who are unable to meet a number of specialists' fees.

Class C. Those whose earnings are more than the maximum of Class A patients, but who have become temporarily embarrassed through illness or other unfortunate circumstances. These patients are treated through the present illness only.

Class D. Consultation cases when referred by physicians saying "patient is unable to pay for consultation."

From the statistics given by Veeder only 2 per cent. of the cases admitted in the Washington University as patients are able to pay the prac-

* See page 404.

* Journal of the American Medical Association, July 8, 1916.

tioner. The problem of eliminating this small percentage is still under way.

Physicians not connected with the dispensary will naturally compare the earnings of their own patients with the figures given by Veeder for dispensary patients and ask, can we use this classification in treating our patients? It is a well known fact that the great majority of people in large cities will fall into one of the four classes outlined above. Therefore under our system of economics it is impossible for the outside physician to use this classification for his patients because of the financial investment represented in his education and necessary equipment.

This is the problem—a problem which is as large as life itself. While no one can conscientiously say that the dispensary with its big buildings, with its wonderful laboratories, with its trained experts and with its large funds approaches the ideal in unselfish service to humanity, one must ask, "How about the family doctor?" A work which will show how the family physician can give a like service and at the same time gain sufficient financial return to keep himself and his family in respectable circumstances will be most interesting and useful and will no doubt eliminate that subtle but definite antagonism of the physician to free clinics.

High ideals should always stimulate the conscientious physician to greater efforts which in turn bring greater results; thus in a way we have the main justification for the existence of such institutions.

In the final analysis it is probable that the solution will be found in national and state insurance acts, upon which we have commented in another column. Under properly executed health insurance laws the patient will receive proper medical service and the physician receive his due compensation.

The work of Veeder demonstrates a valuable lesson and teaches better than any previous effort has done how necessary is legislation to the establishment of the equitable status of physician, patient and the community.

NATIONAL BOARD OF MEDICAL EXAMINERS

Undoubtedly the principle of a national license to practice medicine will sometime prevail, even though state boards are not abolished; in fact, state boards have functions that will probably always require their existence, but examination for licensure can be made a simple matter when the national board has been universally recognized. The national board if it does nothing more than fulfil its present aim, which is to establish a standard of examination

and certification of medical graduates, will have elevated the art of medicine higher toward the ideal plan on which its precepts and traditions are based. Much of the incompetency and quackery in medicine today is due first, to the grave negligence of colleges to inquire into the moral status of students; and second, to inefficient state boards. The first handicap happily is rapidly being outgrown, and the second will practically disappear in the state boards accept the certificate of the national board.

It is hardly necessary to say that the national board cannot now issue a license to practice in any part of the country. Its function is merely to certify that the qualifications possessed by one passing the examination are of a high character. If the state boards choose to recognize this certificate they may do so if the state laws permit such discretionary action; but in any event, this possession by the graduate in medicine will be convincing evidence that he possesses the necessary qualifications to pass any state board examination.

The first examination of the national board will be held Oct. 16, 1916, at Washington, D.C. On another page* we publish other information concerning this examination.

OBITUARY

EDWARD O. GREER, M.D.

Dr. Edward O. Greer, died at his home in St. Louis, May 27, 1916, from nephritis, following an attack of grip last November, aged 51 years.

Dr. Greer was a native of Ohio and came to St. Louis when a young man. He took his medical course in the Marion-Sims Medical College, from which he graduated in 1893. He was an active member of the St. Louis Medical Society and the Missouri State Medical Association.

HILLIARD JAMES ROWE, M.D.

Dr. H. J. Rowe, a prominent physician of Willow Springs, died June 17, 1916, following a long illness from cancer and other complications. Age 57 years. Dr. Rowe moved to Willow Springs from Charleston, Mo., in 1885, and soon became one of the leading physicians in Southern Missouri. In 1888 he was married to Miss Estella Carter, daughter of Mr. and Mrs. B. B. Carter of West Plains. He was a member of the Howell County Medical Society, the Missouri State Medical Association and a Fellow of the American Medical Association.

* See page 402.

PAUL PAQUIN, M.D.

Dr. Paul Paquin, medical director of the Hospital and Health Board of Kansas City, died June 23, 1916, from tuberculous meningitis, aged 56.

For many years Dr. Paquin devoted his energies to the tuberculous problem, but like a host of others who have assumed the task of penetrating the mystery of this disease process and attempted to find the means of arresting and preventing it, his most strenuous efforts failed to pierce the veil of secrecy, and he died a victim of the scourge he so ardently sought to compass. For many years he lived in St. Louis, and was a member of the St. Louis Medical Society. From St. Louis he moved to Asheville, N. C., where he continued his investigations until about two years ago, when he moved to Kansas City, and was appointed director of the hospital and health board with large discretionary powers. Here he developed splendid executive ability and was accorded more effective cooperation from the board with less political entanglement than any previous health officer in that city had enjoyed, so that he was able to infuse a healthy spirit of responsiveness on the part of the people and the press for the great propaganda of health conservation that resulted in wide benefits to the community.

Dr. Paquin was born in Montreal, Canada, and was educated at McGill University. He first graduated as a veterinary surgeon, but later took a medical course at the University of Missouri, graduating in 1887. He was professor of bacteriology and pathology at the University of Missouri for several years and secretary of the Missouri State Board of Health in 1896-1899. He was a member of the North Carolina State Medical Association and a Fellow of the A. M. A. Commenting on his death, the *Kansas City Journal* says:

"Dr. Paquin accomplished an immense amount of good in a life-long fight against tuberculosis, and in the opinion of the physicians who aided him in his last battle for life, he died as a direct result of disease contracted while engaged in this battle against the dread White Plague. He was rendered peculiarly susceptible to the ravages of this disease—a disease which the ordinary precautions of a skilled physician enabled him to withstand—by his arduous labors in the discharge of duties not directly associated with the fight against tuberculosis. Into whatever work engaged his attention he threw himself with unsparing vigor. His duties as director of public health of Kansas City entailed an enormous amount of work, and his impaired physical strength was unequal to the strain. His heart and mind and soul were too much for his body; they set it tasks which it could not perform without the recuperation which his very zeal denied it."

NEWS NOTES

MEMBERSHIP CHANGES, JULY, 1916

NEW MEMBERS

Pearl J. Anderson, St. Louis.
 Fred M. Cook, St. Louis.
 Isaac G. Cook, Morrison.
 Meredith R. Johnston, St. Louis.
 John H. Lucas, Mendon.
 Edwin A. Noll, St. Louis.
 Stephen Vezeau, St. Louis.
 Cecil B. Shrout, St. Louis.
 Wilford H. Urquhart, Holliday.
 Samuel B. Westlake, St. Louis.
 John M. Wilson, Stoutsville.
 Oliver B. Zeinert, St. Louis.

CHANGE OF ADDRESSES

Richard W. Baker, Y. M. C. A., to 936 S. Burlington Ave., Los Angeles.
 James F. Barry, 5896 Delmar Ave. to 5949 Horton Place, St. Louis.
 Conrad Baumgartner, 2108 Russell Ave. to 2626 Gravois, St. Louis.
 W. A. Beckemeyer, Maywood Hospital, to 120 W. 5th St., Sedalia.
 Cord Bohling, Maywood Hospital, to 120 W. 5th St., Sedalia.
 Luther M. Calloway, Pawnee, Okla., to 4212 E. 15th St., Kansas City.
 Charles H. Eyerman, Grand and Gravois to 3100 Pennsylvania Ave., St. Louis.
 Michael Golland, 1519 Carr St. to 315 Chemical Bldg., St. Louis.
 E. A. Gumming, 2923 St. Joe Ave. to 2521 St. Joe Ave., St. Joseph.
 Benj. L. Johnston, Dykes to Manes.
 Elza Lee Johnston, Waverly to Kansas City.
 Leo C. Huelsman, Avalon, Catalina Island, Calif., to Colorado Springs, Colo.
 H. R. Hickman, 3455 Crittenden St. to 6204 Magnolia Ave., St. Louis.
 A. B. Killingsworth, Iuka, Kan., to Caplinger Mills, Mo.
 H. L. Luckey, 1404 S. Grand Ave. to 2625 Marshall Ave., St. Louis.
 L. A. Marty, Grand Ave., Temple, to 3501 E. 9th St., Kansas City.
 E. V. H. Rawlins, Marshfield to Elwood.
 A. J. Tucker, Third and Ohio Sts. to 235 Ilgenfritz Bldg., Sedalia, Mo.

DROPPED

Ralph W. Murray, Jensen, Neb.

EXPELLED

Kenneth R. Barnum, Sedalia.

DECEASED

Charles H. Hughes, St. Louis.
 Hilliard J. Rowe, Willow Springs.
 Wm. M. Shankland, Clinton.
 V. O. Williams, Nevada.

MISCELLANY

RESEARCH FOUNDATION FOR STUDYING THE CAUSES OF ALCOHOLISM AND INEBRIETY

A research foundation has recently been organized at Hartford, Conn., for the purpose of making an exact scientific study of the causes of alcoholism and inebriety. It will be endowed and become a permanent work. Preliminary studies have already begun, and practicing physicians from all parts of the country are appealed to for the records and histories of cases which will be compiled and tabulated for the purpose of determining the laws which control and govern them.

This is the first scientific effort to take up the subjects of alcoholism and inebriety and determine the causes which produce them outside of alcohol. Science has shown that these conditions are governed by exact physical and psychical laws, which if known and understood would indicate the most practical means and measures of relief.

The foundation will be practically a laboratory or clearinghouse where persons can come for examination, counsel and advice. To a large class of persons who want something more than pledges, appeals or sanatorium treatment, this will open a new field of means and measures for relief that will be most welcome.

Correspondence is earnestly solicited from the profession.

THE NATIONAL BOARD OF MEDICAL EXAMINERS OF THE UNITED STATES

The need of a standard medical examining body for the whole United States and its territories (tributary thereto) has occasioned the organization of the National Board of Medical Examiners. It is a voluntary board, the members of which are selected from the medical corps of the army, the navy, and the public health service, the Federation of State Examining Boards, and other representative organizations, and the medical profession of the United States.

The aim of this board is to establish a standard of examination and certification of graduates in medicine, through which by the cooperation of the individual boards of medical examiners, the recipients of the certificates of the National Board of Medical Examiners may be recognized for licensure to practice medicine.

The policy of the board is to conduct its examinations on a broad scientific basis of such a high yet practicable standard that the holders of its certificates will receive universal recognition.

The independent action by the board is furthered by the financial and moral support of the Carnegie Foundation.

REQUIREMENTS

Requirements for Admission to the Examination

Satisfactory completion of

(a) *High School.* A four-year high school course.

(b) *College.* Two years of acceptable college work, including physics, chemistry, biology, and a modern language.

(c) *Medical School.* Graduation from a Class "A" medical school (American Medical Association classification).

(d) *Hospital Training.* One year as intern in an acceptable hospital or laboratory.

The above requirements apply to graduates of medical schools in 1912 and thereafter. The board may accept equivalent credentials in the case of graduates previous to 1912.

EXAMINATIONS

The board has been given spacious rooms in the Army Medical Museum for conducting its examinations. They will be conducted primarily by members of the board, and will be written, oral, and practical, including the examination of cases. In addition to the written examinations held in the Army Medical Museum, oral, written, and laboratory examinations will be held also in the army and navy medical schools, and in the hygienic laboratory of the public health services, these facilities, as well as the government hospitals wherein will be held clinical examinations, having been placed at the disposal of the board for the purpose.

Credentials must be presented to the board sufficiently early for investigation. If adequate time is not allowed for this purpose, credentials may be rejected.

SUBJECT VALUES

1. Anatomy	100
2. Physiology	75
3. Chemistry and Physics.....	75
4. Pathology and Bacteriology.....	100
5. Materia Medica, Pharmacology, and Therapeutics	75
6. Medicine	200
7. Surgery	200
8. Obstetrics and Gynecology.....	100
9. Hygiene and Sanitation.....	50
10. Medical Jurisprudence.....	25
Total	1,000

Passing grade is an average of 75 per cent.

A candidate receiving a mark below 50 per cent. in one subject or below 65 per cent. in two subjects fails.

Candidates failing at the first examination may register for a second examination at the end of one year. A third examination will not be allowed.

It is expected that the examination will cover about one week.

No fee is charged for the examination itself, but a registration fee of \$5 will be required.

The first examination will be held in Washington, beginning Oct. 16, 1916.

Further information and application blanks may be obtained from the secretary, Dr. J. S. Rodman, 2106 Walnut Street, Philadelphia, Pa.

THE MEDICAL CORPS OF THE NAVY

In his address before the graduating class of the Naval Medical School on April 12, 1916, the surgeon-general of the navy, Rear Admiral William C. Braisted, reviewed the work of the present administration of the navy department in so far as it affected the medical corps of the navy. The surgeon-general said:

"During the past two years the present secretary of the navy, in many instances on his own suggestion and in others by his support of the Bureau of Medicine and Surgery, has advanced our service in the following items:

"1. He has recommended to Congress the increase of the medical corps from 347 to nearly 500, the first increase in twenty years and most urgently needed.

"2. He has provided in his personnel bill a substantial increase in the upper grades of the medical corps. No increase in these grades has been made

since 1870, notwithstanding the tremendous growth of the service as a whole.

"3. He has established two of the finest hospital corps training schools in the world for the training of male nurses, and made provision for the increase in this corps by nearly 11,000 men, and has provided a possible chance for members of this corps to reach commissioned rank.

"4. He has made provision for a new hospital ship for the navy, which will enable us to build the first ship of this kind, designed especially for this purpose, and which will be a model for our country and the world. This one effort will, if granted by Congress, be of inestimable value to the navy and to all other countries. It will provide our fleet and our service with a floating hospital for the care of the sick and injured of the navy that will rival any metropolitan hospital in existence.

"5. He has established schools for the training of the native women of Samoa and Guam in nursing that already are giving most excellent results and are a most important humanitarian educational effort for these helpless people, promising, when completed, to be one of the noblest efforts made for the uplifting of any similar class of people.

"6. He has increased our appropriations to meet our necessities and to enable us to carry on our great work.

"7. He has permitted us to take an active part in the regeneration of Haiti by furnishing medical officers and nurses to care for the sanitary needs of the great work that is now in progress in Haiti and which ranks with one of our greatest humanitarian efforts.

"8. He has supplied already, and gradually will furnish our deficiencies in the many large hospital and medical organizations on shore, such as contagious units at Mare Island, Puget Sound, New York and Newport, and has furnished adequate and commodious homes for our nurses at Mare Island and Boston, thus adding to the content and efficiency of the women nurses. South of Norfolk and San Francisco our coast line is practically unprovided with hospitals for peace and war, but with a policy defining permanent naval stations his attention has already been turned to the needs of the medical department. That we may not be unprovided in this respect in emergency, he has authorized our efforts with the Red Cross, and we are now beginning the organization of five Red Cross hospital units (mobile hospitals of 250 beds each, with personnel and equipment complete) that can be called at notice to any point of this coast line where needed.

"9. He has authorized a medical reserve corps, of the best medical talent that our country can furnish, to be ready to come to our assistance in time of need, and to prepare this group of the naval medical corps is initiating a correspondence school that shall give these officers a training and working knowledge of their work when called on. Realizing the great lesson to be learned from the present European war, he has detailed a number of our best officers for duty in Europe, as observers, and the excellent results already show in the report of surgeon Fauntleroy, whose work has added greatly to the professional knowledge of all who are interested in medicomilitary matters and is a credit to our service.

"10. The above are only a few examples showing the interest and activity of our secretary in this branch of the service. Our work is most highly specialized, dealing as it does with so many questions, not alone with the healing of diseases, but with all that pertains to the orderly and successful running of this great department of the government. The work of the Bureau of Medicine and Surgery touches intimately that of every other bureau in the department and makes us one of the busiest and most active corps."

AGAIN, THE LIBRARY

The merger of the medical library with the society has been for many months an accomplished fact, and yet it seems that the union so happily consummated after a somewhat prolonged and precarious courtship still lingers in the honeymoon stage, and is still attended with the pleasures and pains peculiar to that period. For while the charm of novelty lingers, the contracting parties have not yet become thoroughly molded to each others anfractuosities. The situation seems still a strange one to some of our members, seeing how seldom they search our shelves.

The recent presentation of the Dr. Lutz medallion brings to mind the events leading up to it. They form an important chapter of local medical history, new perhaps to some of our younger members, and worthy of being more briefly told, in the hope that better knowledge may awake interest, and thus promote the use and enjoyment of the library.

The idea of acquiring a collection of books doubtless arose in this society almost from the first. Little, however, was done in this direction until 1876, when an arrangement was entered into between this society and the St. Louis Public School Library, the society to pay to the library annually for each member \$3 for four successive years, that is, until \$12 had been paid, that sum being the price of a life membership. In consideration of these payments, the library furnished each member of the society a card entitling him to the uses of the library, life membership to be acquired when the full quota of payments—namely, \$12, had been paid in for him. In addition, all moneys received from the society were to be expended for the purchase of medical books and periodicals, these to be selected by a committee of the society.

Although the library lived up to its part of the agreement, the arrangement was never more than a limited success, partly from neglect and apathy at times on the part of the society but chiefly, as we believe, from an inherent defect, arising from the fact that the special needs of a working medical library do not easily fit into the scheme of a general library.

When the Public School Library became the Public Library the members of this society individually signed over to the library all right and title in the books and periodicals bought under the former arrangement, and to a considerable sum of money which had accumulated for the carrying out of its purpose.

The library, perhaps feeling that the doctors were, under the circumstances, entitled to some especial consideration, at first set aside a room for their use, but for reasons, which it is unnecessary here to detail, it was little used, and after a brief existence was discontinued. Some years later, these books were loaned by the Public Library to the Medical Library Association, and are now on our shelves, where in all probability they will be allowed to remain.

This was the condition in the closing months of 1898, when a movement was originated by Dr. Frank J. Lutz, looking to the creation of a medical library to be owned and operated by physicians, and in April of 1899 the St. Louis Medical Library Association was incorporated with Dr. N. B. Carson as president, Dr. John H. Duncan as vice president, and Dr. Frank J. Lutz as librarian. Other officers were changed from time to time, but these three, with two other trustees, continued in their respective offices for the fifteen years of the independent existence of the library. In June of the same year a room was secured in the Y. M. C. A. building on Grand and Franklin Avenues, and much earnest preparatory work was done during the hot summer months. A second room soon became necessary, and in October the library was formally thrown open.

It would be interesting, did space permit, to record the hopes, fears and steadfast purpose of the little band of men who from small beginnings, and with less encouragement than they might reasonably have expected from the profession, and with some attempted discouragement, yet refused to be discouraged and succeeded in establishing and maintaining for the use of the physicians of this city one of the best medical libraries in the country. While the volumes on its shelves were at first comparatively few, yet the library was from the first full fledged in the sense that from the opening day it possessed those aids and employed those methods best approved by modern experience for the conduct of a true working library.

In 1904 the Library Association acquired the building at 3525 Pine Street, a momentous event in the history of medical St. Louis, as out of it grew the removal of the medical society to its present quarters, beginning for the first time to live under its own roof, and thus, the creation of a medical center under the combined auspices of the library and society.

It is an old observation, that nothing so powerfully provokes the tender passion as propinquity, so that it is small wonder that the society soon began to cast loving glances at its fair neighbor who lived only next door, with not so much as a fence between their premises. After some time these desires became articulate, and various conferences were held in the hope of bringing about a union of the two bodies. But the old truth, "Matrimony, matter o' money," operated for a time as it so often has, in similar circumstances, to delay the happy union, until events so shaped themselves as to give satisfactory assurance that the library would be successfully maintained under the proposed arrangement. The actual taking over of the library is a matter of recent history.—*Bull. St. Louis Med. Society.*

SCHEDULES FOR MEDICAL AID UNDER WORKMEN'S COMPENSATION LAWS— WHAT THE MISSOURI SCHEDULE SHOULD BE

ALROY S. PHILLIPS, ST. LOUIS

Member Senate Commission to Draft Workmen's
Compensation Law

Under the workmen's compensation laws of Arizona, Kansas, New Hampshire, Washington and Wyoming there is no provision for medical aid, while under the Connecticut law there is no limit upon the liability of the employer for medical aid. In some states there is a money limit only, which is \$150 in Maryland, \$200 in Ohio and \$250 in Oregon, while in West Virginia it is \$150 in most cases and \$300 if required in cases of permanent disability. In other states there is only a time limit, which is one week in Texas, two weeks in Rhode Island, fifteen days in Oklahoma, three weeks in Michigan, thirty days in Indiana, sixty days in New York, ninety days in Wisconsin, and four months in Nevada, while in Massachusetts it is two weeks and in California ninety days, with power in the commission to extend the period in unusual cases. And in other states there is both a time and a money limit, which are \$50 and two weeks in Montana and New Jersey, \$75 and two weeks in Vermont, \$100 and two weeks in Iowa and Louisiana, \$200 and three weeks in Nebraska, \$100 and thirty days in Colorado, and \$200 and eight weeks in Illinois, while in Minnesota it is \$100 and ninety days, with the power in the court to increase the amount not to exceed \$200 and the period not to exceed 100 days; in Maine \$30 and two weeks, with

an additional amount if a major surgical operation is necessary. In some states the medical aid is limited to doctor's bills and medicines, while in others it extends to hospital service, nursing, medical apparatus, crutches, artificial limbs, eyes and other parts of the body. The laws usually contain a provision providing that if the employer fail promptly to provide the medical aid, the employee, or someone for him, may see that it is furnished and make the employer liable for it.

The reasons for these exclusions of, or limitations and restrictions upon, medical aid are grounded in its enormous cost and the fear of its abuse. Even in states where there are limitations the cost of medical aid forms a large part of the total benefits paid under the law, running from about 19 per cent. in New Jersey to about 37 per cent. in California, and the fear is that if there be no limits abuses will spring up which will make the medical aid eat up too large a share of the benefits and ultimately destroy the law. In some countries such laws have been caricatured as the "doctor's graft," and in France hospitals and doctors, instead of lawyers, became "ambulance chasers" and actually paid injured workmen to come to their establishments and let them treat them.

The objections to a time limit are that it is open to the abuses feared and does not cover all of the cases. If there is a tendency toward abuse, gross overcharges may be made for medical aid furnished during the time limit, no matter how long it is. Assuming that there are 50,000 industrial accidents a year in Missouri and that some medical aid is necessary during the entire period of total disability, on the basis of the second annual report of the Massachusetts Industrial Accident Board, in 68 per cent. or 34,000 of these the total disability lasted one week or less, in 10 per cent. or 5,000 it lasted from two to four weeks, in 7 per cent. or 3,500 from four to eight weeks, in 3 per cent. or 1,500 from eight to thirteen weeks, in 1 per cent. or 500 from thirteen weeks to six months, and in 1 per cent. or 500 it lasted over six months, so that if the limits were strictly adhered to there would be 16,000 cases not fully covered by a one-week limit, 11,000 cases not fully covered by a two-week limit, 6,000 cases not fully covered by a four-week limit, 2,500 cases not fully covered by an eight-week limit, 1,000 cases not fully covered by a thirteen-week (or 91-day) limit, and 500 cases not fully covered by a six months' limit. And while it may be true that after the first few weeks very little medical aid is necessary, still these figures show the injustice of an absolute time limit.

The objections to a money limit are that it tends to increase the cost of the medical aid, and does not cover all of the cases. While a \$25 limit would cover the cost of medical aid in a large proportion of the cases, and the average cost per case is much less than that sum, the limit is usually fixed at a larger sum, so as to provide for a large percentage of the individual cases which exceed the average. And when this larger limit is fixed in the law there is a tendency toward charging the limit in many cases which do not justify it. This is probably due to the fact that as the employer is liable for the bill, the charges are made according to his ability to pay rather than according to that of the injured workman, as would be the case if the employer were not liable. According to the second Massachusetts report the fatal cases and those of total and partial permanent disability amounted to about 1.7 per cent. of the total number, and assuming that half of these required an average of two weeks' hospital service, one week's nursing, a major operation and the other incidentals, of 50,000 accidents there would be 425 cases in which the cost of medical aid per case may be computed as follows:

Ambulance service	\$3.00
Two weeks' hospital service, @ \$15.....	30.00
Operating room	5.00
Medicine and supplies	7.00
Nursing	25.00
Attending physician	30.00
Major operation	50.00
Total.....	\$150.00

If \$150 be added to this for an artificial limb, in about 40 cases the cost of medical aid will be about \$300 per case. And there may be a few cases where the cost of medical aid will run as high as \$500.

The advocates of limits to medical aid urge that in states where there is a limit, very little attention is paid to the limits, for the reason that it is to the interest of the employer to have the injured man recover as soon as possible and that money expended for medical aid saves expenditure for compensation. While this is true, it is really an argument against limits and demonstrates their impracticability and unfairness. The remedy for the much-feared abuses lies not so much in limits as in vesting in the commission which administers the law the power to regulate and control all charges for medical aid so as to make them fair and reasonable and such as prevail in the community for similar service, not to employers, but to workmen. Statistics show that in states like California, Illinois and Wisconsin, where the commission has no power to regulate such charges, the cost of medical aid has been unduly large, while in states like Massachusetts and Ohio, where the power of regulation exists, the costs of medical aid are normal. Under the first year of the Massachusetts law there was this power of regulation and a two weeks' limit for medical aid, and the cost of medical aid was but 22.4 per cent. of the total benefits paid under the law, with an average cost per accident of but \$5.68. In the second year the law was amended so as to give the commission power to extend the limit and the additional cost was but 10 per cent., not of the total benefits, but of the medical aid only. In Ohio, where like powers existed, the average cost per accident where the disability lasted one week or less was but \$3.23, and the average for all other cases was but \$13.24. On the basis of these figures and the duration of disabilities under the second year of the Massachusetts law the cost of various time limits to medical aid for 50,000 accidents may be estimated as follows:

Length of Limit	No. of Additional Cases	Average Increase	Total Increase	Total Cost	Cases Covered
1 week	50,000	\$3.25	\$161,500	\$161,500	68%
2 weeks ...	16,000	2.50	40,000	201,500	78%
4 weeks ..	11,000	4.00	44,000	245,500	88%
8 weeks ...	6,000	8.00	48,000	293,500	95%
13 weeks ...	2,500	10.00	25,000	318,500	98%
6 months ..	1,000	26.00	26,000	344,500	99%
No limit.....	500	52.00	26,000	370,500	100%

This table shows that the larger part of the total cost of medical aid is covered by a two-weeks limit and that it will cost about \$169,000 more to furnish medical aid without a limit, and that the difference in the cost between a thirteen-week limit and no limit is but \$52,000. As the average cost per accident for disabilities lasting over one week is \$14.06 in this table, and the average of such costs in Ohio is \$13.24, it is believed that these estimates are slightly excessive, or at least safe.

With the power to regulate the charges, and the power to extend the limits there is, however, some justification for both time and money limits in the law. There may be cases where the employer is not aware that medical aid is being furnished at his expense, or where medical aid is being furnished under circumstances where it is unnecessary, or the question

of the advisability of extraordinary and costly things may arise, and in such cases it is fair and proper that if these things are to exceed reasonable limits the attention of the commission should be called to them and its authority be obtained. A time limit of thirteen weeks and a money limit of \$200, unless larger limits be authorized in each case by the commission, ought to be sufficient to cover most cases and not unnecessarily burden the commission with applications for extensions.

If the law is to be fair and adequate to meet the needs of the situation, it should provide for such medical aid, including attending physicians, surgeons, medicines, hospital service, nursing, medical apparatus, crutches and artificial parts of the body, as is necessary to cure and relieve from the effects of the injury, subject only to such limits as may be reasonable, with power in the commission to regulate all medical charges and to extend the limits in particular cases, so as to do adequate and complete justice in every one of the cases.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL, 1916

(UNDER THIS HEAD WE LIST THE SOCIETIES WHICH HAVE PAID THE STATE ASSESSMENT FOR ALL THEIR MEMBERS)

- Webster County Medical Society, Dec. 15, 1915.
- Benton County Medical Society, Dec. 16, 1915.
- Cape Girardeau County Medical Society, Dec. 19, 1915.
- Schuyler County Medical Society, Dec. 22, 1915.
- Atchison County Medical Society, Dec. 27, 1915.
- Clark County Medical Society, Jan. 1, 1916.
- Madison County Medical Society, Jan. 10, 1916.
- Clinton County Medical Society, Jan. 11, 1916.
- Sullivan County Medical Society, Jan. 17, 1916.
- Phelps County Medical Society, Jan. 17, 1916.
- Camden County Medical Society, Jan. 18, 1916.
- Dent County Medical Society, Jan. 31, 1916.
- Barton County Medical Society, Feb. 3, 1916.
- Moniteau County Medical Society, Feb. 7, 1916.
- Henry County Medical Society, Feb. 21, 1916.
- Putnam County Medical Society, Feb. 24, 1916.
- Pulaski County Medical Society, Feb. 28, 1916.
- Vernon County Medical Society, Mar. 3, 1916.
- Ste. Genevieve County Medical Society, Mar. 15, 1916.
- Cooper County Medical Society, Mar. 30, 1916.
- Montgomery County Medical Society, April 4, 1916.
- Ralls County Medical Society, April 6, 1916.
- Livingston County Medical Society, April 12, 1916.
- Macon County Medical Society, April 14, 1916.
- DeKalb County Medical Society, April 17, 1916.
- Wright County Medical Society, April 25, 1916.
- Carter-Shannon County Medical Society, April 26, 1916.
- Greene County Medical Society, April 28, 1916.
- Iron County Medical Society, April 28, 1916.
- Platte County Medical Society, April 28, 1916.
- Grundy County Medical Society, May 3, 1916.
- Adair County Medical Society, May 5, 1916.
- Lafayette County Medical Society, May 5, 1916.
- Cass County Medical Society, May 15, 1916.
- Johnson County Medical Society, May 20, 1916.
- Ray County Medical Society, May 29, 1916.

Missouri State Medical Association

**Fifty-Ninth Annual Meeting, held at
Excelsior Springs, May 8-10, 1916**

(Continued from July)

REPORTS OF COUNCILORS

First District, DR. C. L. EVANS, Oregon, councilor: Nodaway County Medical Society reports meetings held on the first and third Fridays in each month, with an average attendance of ten. There are forty-three physicians in the county and thirty-nine of that number are members of the organization in good standing.

Holt County Medical Society reports meetings quarterly, two of which annually are open to the public and special addresses are prepared for these occasions. There are twenty-four physicians in the county, nineteen of whom are in good standing in the organization and one delinquent.

No report from Atchison County Medical Society. However, they have twelve members in the society all paid up for 1916.

Third District, DR. G. W. WHITELEY, Albany, councilor: The third district is in good shape as to membership. The meetings are few and not well attended but are held with discussion of topics of interest on personal experience at the bedside, with a few papers.

I am at a loss how to interest the members so as to get attendance that will be gratifying to the whole membership. The holding of banquets is not popular in the country districts as the cost is too great for the benefit obtained and tends to keep the members away from the meetings. I think I shall try some outing meetings in my own county and recommend it to the other counties in my district.

Fourth District, DR. J. B. WRIGHT, Trenton, Councilor: We believe the condition of the profession in the fourth district to be better than ever before. All regular physicians in active practice in Grundy County belong to the society, due principally to the efforts of our secretary, DR. E. A. DUFFY. So far as I can learn, there are only two or three doctors in the counties of Sullivan, Mercer and Putnam who are not members. The scientific work, with the present organization, promises great improvement.

Fifth District, DR. J. R. BRIDGES, Kahoka, councilor: Scotland County: Regular meeting each quarter, or four times a year. A number of papers are read each time by the members and general good fellowship prevails.

Schuyler County: Regular meeting each quarter, average number present, seven. A number of interesting papers read each time by the members and an interesting program carried out each time. General good feeling prevails among the members.

Clark County: Regular meeting each quarter, average attendance, six. General discussion of interesting subjects and at least one good paper. Good fellowship prevails.

Eighth District, DR. L. W. CAPE, Maplewood, councilor: Everything is harmonious among the societies of the eighth district.

St. Charles County Medical Society holds quarterly meetings under the direction of its president, DR. H. N. Corley, St. Paul, and its secretary, DR. T. L. Hardin of St. Charles. Out of a total of twenty-one members they have seventeen members paid for 1916.

St. Louis County Medical Society holds monthly meetings, excepting in the months of July and August. Their scientific programs are gratifying and the attendance is good. They have a total membership of forty-one with thirty-three members paid for 1916.

During the past year two new members have been added to the roll and one reinstated. The president is DR. P. M. Brossard and the secretary is DR. Garnet Jones of Maplewood.

Pike County Medical Society holds meetings monthly and has a paid membership of twelve out of a total of fifteen members. They have received one new member into their ranks during the year.

Lincoln County has no organization but a number of the eligible doctors in that county belong to Pike County Medical Society, of which DR. C. P. Lieuallen of Louisiana is president, and DR. F. V. Keeling of Elsberry is secretary.

Tenth District, DR. C. H. DIXON, Moberly, councilor: The condition of the organization in the tenth district is good. Macon County has all but four eligible doctors in the organization and fully paid up. Randolph County Medical Society is doing better work than formerly. Meetings are more frequent with increased attendance. We had special clinical meetings in all counties with visiting clinicians, all of which were well attended and great interest manifested.

Eleventh District, DR. G. W. HAWKINS, Salisbury, councilor: Linn County Medical Society is very active. During the past year they have held four regular meetings, had twelve scientific papers and held their membership up to normal, namely, thirty-one.

Livingston County Medical Society has held three meetings during the year. No papers or clinics. Full paid up membership of sixteen members.

Carroll County Medical Society has a paid up membership of eleven members with one delinquent. They do not hold regular meetings, but this society is to be congratulated on the prosecution and conviction of a chiropractor. He was fined \$300.

Chariton County Medical Society is in fairly good working condition. They have held six regular meetings, two clinics with three papers. They have seventeen paid members and two delinquents. Three new members have been added to the roll this year.

Twelfth District, DR. SPENCE REDMAN, Platte City, councilor: The condition of the Caldwell County Medical Society is satisfactory save that the doctors do not attend the meetings as regularly as they should. They meet quarterly during the winter and monthly during the summer months and in 1915 held five meetings. The membership is nineteen plus two new members since last December, making the present enrolment twenty-one. The average attendance for 1915 was only five, but for the number of meetings held and the few attending, the scientific work accomplished was most excellent. Thirteen papers were read and twenty-three clinical cases were presented. A few men are doing the work.

Interest in all departments of society work is decidedly increasing in Clay County. This society has done most excellent work during the entire year of 1915. I was invited to visit them, October 25, and did so. After partaking of an elegant oyster luncheon as the guests of the Snapp Hotel, the twenty-five members present participated in the scientific program. The best of good fellowship prevails among the membership and the society is making the atmosphere hot for the quacks at Excelsior Springs. The enrolment for 1915 was thirty-two, the average attendance was eleven and eleven meetings were held. Fourteen papers were read, four clinical cases presented and five stereopticon lectures were delivered. The society meets the last Monday evening in each month, alternately in Liberty and Excelsior Springs.

The Clinton County Medical Society is doing its usual good work. It meets quarterly and held all four meetings during 1915, at which ten papers were read and eight clinical cases were presented. The

1915 membership was eighteen and the attendance averaged eight. There are a few men outside the society who are eligible and capable and who should be identified with organized medicine.

I had the pleasure of meeting with the Daviess County Medical Society, Dec. 14, 1915, and am happy to report the society prospering and a feeling of fraternalism existing among the members. They held all the four quarterly meetings of 1915 and had an average attendance of twelve, which is exceptionally good with a membership of twenty that is widely scattered. Twelve scientific papers were read, an average of three for each meeting, and seven clinical cases were exhibited. A society doing the good work Daviess did in 1915 should meet more often.

Interest in society work is at low ebb in Platte County. The work done during 1915 was not up to the standard established several years ago. The society meets the first Wednesday of each month. During 1915 there were five meetings with an average attendance of six. The members paying dues number sixteen. There were six papers read and no clinical cases presented.

The Ray County Medical Society held only one meeting during 1915. It was purely a business meeting and no papers were read. Nineteen members paid dues in 1915 and the society is supposed to meet the third Wednesday of each alternate month. Ray County Society needs stimulation. I hope to visit the society in the near future.

Fifteenth District, DR. H. S. CRAWFORD, Harrisonville, councilor: Medical organization in the fifteenth district is in a prosperous condition. Cass County has thirty paid up members, and Johnson County twenty-three. The regular meetings during the year were well attended, when we consider that both counties are rural communities and many of the members have to travel quite a distance to attend. The scientific programs were interesting and profitable. Both societies took part in the observance of "Baby Week." Members of both societies also took part in public health meetings in their respective towns during the year. Harmony and good fellowship prevails among the members and the influence of the society is being appreciated by the public as well as the few physicians who are not yet affiliated with their local societies. We regret that there are still a very few physicians in both counties who are eligible to membership who have not responded to the invitations to align themselves with organized medicine.

Sixteenth District, DR. E. N. CHASTAIN, Butler, councilor: I have visited all the county societies in my district and find them all in good working condition except Dade. I find this county has not had a meeting or added a member since organization last year. Barton County has not been as active as they should be, but doing better than they did. Cedar County has a splendid society when they get together. They do not meet regularly but are alive when they do meet. Vernon is doing splendid work, holding quarterly meetings. Bates is meeting monthly and having good meetings.

Eighteenth District, DR. FRANK DEVILBISS, Tipton, councilor: So far as I know there has been no county society meeting in either Camden or Morgan counties. There is such a limited number of doctors in Camden County and the country so rough and broken that it is difficult to hold meetings. The failure in Morgan County is largely due to indifference. Miller County has not been so active as heretofore, having held but one meeting. This one meeting, however, was well attended and considerable interest manifested. Moniteau County holds regular meetings quarterly, with an average attendance the past year of six.

Nineteenth District, DR. S. V. BEDFORD, Jefferson City, councilor: The Cole County Medical Society is in good condition. All the physicians in the county that are eligible, with the exception of two, have affiliated with the county society. The feeling among the physicians seems to be of the best. They hold their meetings the first Thursday of each month during the autumn, winter and spring. We do not have regular scientific programs but usually discuss cases of interest to the profession and what other business that comes before the society. It has been the custom of the Cole County Medical Society for the past several years to have an annual banquet for the purpose of promoting good fellowship among the physicians. This year, 1916, the banquet was held at the Jefferson City Country Club. The wives of the physicians were included, which was a departure from the custom of previous years.

Gasconade-Maries-Osage County Medical Society, through the untiring efforts of the president and secretary, has been doing some good work. Although handicapped by the members being so scattered, most of them residing in small towns so that it is almost impossible to hold regular meetings. The plan that has been followed the past year and which seems to be successful is to hold meetings at intervals in towns at different sections of the district, so that the members residing in the different counties can have some benefit from the society. They hold an afternoon and evening session, the afternoon session being scientific and for physicians only, the evening session a public meeting. Both local and out-of-town men are included on the program. These meetings seem to have been very interesting to the public and have been well attended. One such meeting was held at the courthouse at Hermann, another at Bland and one is contemplated at Linn some time during the month of June. There are a number of physicians in the counties that are eligible and we hope to induce them to become members.

Twentieth District, DR. A. H. HAMEL, St. Louis, councilor: My report will necessarily be brief in view of the fact that it was only a few months ago that I was appointed councilor to fill the vacancy caused by the death of Dr. Lutz. I will say, however, that the St. Louis Medical Society has held during the past year regular and highly profitable meetings with an average attendance of 175. The paid up membership in the state association amounts to 664, the delinquents numbering 175.

The Franklin County Medical Society is predominated by good fellowship, and while they have held but one meeting during the year with an attendance of eleven members, they have a paid up membership in the State Association of twenty-two and one delinquent.

Twenty-Third District, DR. J. H. TIMBERMAN, Marston, councilor: Concerning Dunklin County, eleven meetings have been held this year. Annually a fish fry picnic with social features is arranged and well attended. Papers, clinics and case reports feature their meetings. They report twenty-one paid members. Dr. E. F. Harrison, Kennett, is making an efficient secretary.

New Madrid County Medical Society has thirteen paid members. Five meetings have been held with an average attendance of six. Papers and case reports constitute their programs. Dr. John D. Fakes, Matthews, is secretary.

Pemiscot County Medical Society has eleven paid members. Six meetings have been held, with an average attendance of nine. Papers and clinics with case reports feature their meetings. I attended a meeting at Hayti, Dec. 14, 1915, with twelve members present. The physicians respond in furnishing their quota to the program. Dr. J. W. Johnson, Hayti, is secretary.

Twenty-Fourth District, DR. T. W. COTTON, Van Buren, councilor: Some of the county societies in the twenty-fourth district did rather better work last year, while others did not quite come up to the standard, on the whole making a good average. Each society did something and we are hoping for a better report for this year.

Wayne County Medical Society has seven members, five of which have paid for 1916.

Butler-Stoddard County Medical Society has twenty-five members, eighteen of whom have paid for 1916.

Carter-Shannon County Medical Society has a membership of five, all of which are paid up for 1916.

Twenty-Fifth District, DR. OWEN A. SMITH, Farmington, councilor: Since my appointment last January as councilor for the twenty-fifth district, I have not had an opportunity to do as much for this district as should have been done. However, I am reliably informed that Reynolds County Medical Society is in good condition. They have a large membership and hold very interesting meetings.

My own county, St. Francois, has a paid up membership of twenty-five. A general good feeling exists and at the last meeting a month ago a very interesting program was rendered with an attendance of fourteen.

On April 26, with the kind efforts of our state secretary, Dr. E. J. Goodwin, and Dr. R. W. Gay of Ironton, we succeeded in reorganizing Iron County Medical Society. At this meeting Dr. Dailey Appleberry was elected president and Dr. R. W. Gay, secretary-treasurer.

On account of the inconvenience and inability to get Washington County physicians together, it was decided to invite the physicians in the southern part of Washington County to join with the Iron County Medical Society and we expect to urge the physicians in Potosi and the northern part of Washington County to join with Jefferson Medical Society. By so doing the physicians of Washington County could be affiliated with the state association and attend more meetings because of better roads and considerably better facilities for traveling. All attempts in the past to organize Washington County have failed principally because of the scattered condition of the physicians, bad roads and inability to travel by rail.

Twenty-Eighth District, DR. T. O. KLINGNER, Springfield, councilor: The societies in the twenty-eighth district are in very good condition and are doing good work. The Webster County Medical Society enrolls about every eligible physician in the county. They meet quarterly with a majority of the members in attendance and they were the first on the Honor Roll for this year.

Polk County Medical Society meets quarterly with a majority of the members in attendance, but they do not enroll all the eligible physicians of the county. The society, however, is wide awake and their meetings full of vim and energy.

Lawrence-Stone County Medical Society is another society that is doing excellent work. They meet quarterly and the secretary always has an excellent program prepared with papers and discussions from members of the local society and by visitors from Greene and adjoining counties.

Christian County Medical Society meets quarterly, but owing to the railroad connections and the location of the principal towns of the county the attendance is not always what could be desired. However, they are doing good work.

Barry and Taney County Societies do not give as good reports as I would like to have. I have offered to visit the societies at some of their meetings and assist in working up more interest but have never had an invitation to do so.

Dallas County is still unorganized. I have talked with one or two physicians in the county and find there are nine physicians in the county eligible for membership; four of these are outside of Buffalo and could not attend regularly and there seems to be very little interest in society work. Of course, if an organization was perfected the attitude of the profession in the county might be modified considerably.

Greene County has a membership of seventy-eight with an average attendance of about thirty-five. There are about twenty physicians in the county who are eligible for membership who have not become members. An effort is being made at present to enroll most of this number. The society meets twice a month, our programs are always attractive and the interest good. There have been no malpractice suits filed in the twenty-eighth district since our last meeting. Chiropractors are still with us unmolested.

Twenty-Ninth District, DR. R. L. WILLS, Neosho, councilor: I take great pleasure in reporting as to the health and vigor of the county societies in the twenty-ninth district.

Jasper County has a very interesting and active society. They meet every week. I believe there is in all this state not one county society more active and zealous.

McDonald County has a good society which meets every month. This county is sparsely settled but they have some men down there who are earnest, well qualified and would reflect honor on any community in the state. It is a great pleasure to me to be able to say that they have a good county society.

In my own county, Newton, we are getting along at a "poor dying rate." Since our organization we have made a feeble effort to meet once a month, but frequently many months would pass before we would assemble. We finally got so badly discouraged that we decided to meet once in three months. How this will work out remains to be seen.

EIGHTH ANNUAL MEETING OF THE MISSOURI SOCIETY OF MEDICAL SECRETARIES

The eighth annual meeting of the Missouri Society of Medical Secretaries convened in the Elms Hotel, Excelsior Springs, Monday, May 8, 1916, the president, Dr. H. S. Crawford, Harrisonville, presiding.

Medical Preparedness

DR. M. L. PETERS, Cameron, secretary Clinton County Medical Society: Our medical colleges and medical education are advancing year by year. The preliminary requirements for matriculation in medical colleges are becoming greater. It now requires a high school diploma in all schools of standing and most of them require a high school diploma and one or two years of college work; some require an A.M. or an A.B. degree. That, so far, is all right, but in figuring out the expenses of a young man of today wishing to study medicine we will find an immense expense facing him. It takes a large amount of time and money to complete the present requirements. We are cutting the medical colleges down from 135 a few years ago to 95, and I understand that this number is to be cut down to 35 or 40. There will be a less number of places to receive education. That is all right, but it is going to resolve the medical profession into a rich man's profession. I mean the poor man's son will be unable to obtain a medical education in a first class school. A man without money starting out for a medical education is in a bad position; it takes the best end of his life. The worst of all is that there

are so many different cults coming into prominence where one can step from the blacksmith shop and study a cult without having to meet the requirements of the first class schools. I think our standard is well put, but the trouble is we are doing too many things to curb ourselves without requiring anything from the other fellow. I think we should regulate the fellows who don't do right; for instance, it is all wrong for a fellow to be allowed to enter a chiropractic school, attend a few weeks and come out a finished product ready to practice. I recall a patient of mine who became dissatisfied and went to a chiropractor for a *sure cure*. My compensation was maybe a thank you, perhaps not, but the other fellow got \$150 and left the patient in a worse condition than before he started in with the treatment. I am in favor of a law to compel all schools to have the same entrance requirements.

DISCUSSION

DR. R. E. CASTELAW, Kansas City: Dr. Peters intimated that the profession of medicine is gradually developing into a rich man's vocation, due to the fact that it takes six or eight years to prepare for entrance to a medical school and four years to go through the school and obtain a medical degree and perhaps one year in hospital work afterwards; Minnesota and several other states require a year of work in an accredited hospital. That is all right, and I don't believe the practice of medicine is going to degenerate into a rich man's profession. A few years ago I spent a full year at the University of Pennsylvania. There were in attendance there something like 6,000 students, 150 of whom were in the medical school and there were very few rich young men in the University of Pennsylvania. Of course, there are some schools more aristocratic, but if you go to the larger schools, Rush, Northwestern, Washington University, St. Louis University and University of Pennsylvania, and perhaps Columbia in New York, you will find the large majority of the students are of the so-called middle class. Our rich men are not going into medicine. It is different at Johns Hopkins. They have a number of well-to-do men because there is something about the technical training given there that appeals to them. They often go there to develop into teachers. But in most of the large schools you will find chiefly young men, sons of ordinary business men in ordinary circumstances. Another thing, nearly all these large schools and universities have some sort of a fund whereby if a young man goes there with certain established references he is helped through. So I feel that the possibility of the practice of medicine degenerating into a rich man's vocation is far remote.

E. J. BUTZKE, Mountain Grove: I don't think we need feel any large degree of uneasiness about the practice of medicine developing into a rich man's profession. What is especially interesting to me is getting ahead of the osteopaths, optometrists and those fellows. Whenever the state legislature meets these cults are there making laws favorable to them, while we have nobody there. And one thing that I am absolutely certain about is that when we ask the State Association to help us fight these quacks we are told we have no fund from which to draw, nor have we anything back of us. Your prosecuting attorney will not go after the quacks, you can't make him do it. There is not a man here but what would give 25 cents extra to the county medical society if we could get some help to put down quackery. We have never had a man as lobbyist at Jefferson City, but the osteopaths, chiropractors, optometrists, all have a man there every day fighting for them and we have no one excepting the few physicians who were elected to the Legislature. We as secretaries of the county medical societies, are called on to write letters to our repre-

sentatives to fight such and such a bill, but we ought to have a state lawyer there on the ground just as well as the other man. If he can't fight for us we are helpless.

DR. O. B. HALL, Warrensburg: Just a few words about the progress being made by the sectarian practitioners of medicine. It is a very hard matter indeed to keep the people from patronizing whom they wish. In other words, if a quack goes into a community and a patient thinks it best to patronize that quack, that is exactly what the patient is going to do. It is up to us to keep ourselves in practice in order to keep the other fellow down and to save our patient. It strikes me this way, the only way to keep down quackery is to perfect medicine. That is the particular reason why I should decidedly uphold higher education in medicine. That is exactly why I would be in favor of lengthening medical courses. Make matriculation much harder. I believe that is the only way to handle that subject. One of the most serious things we have to contend with is to lose a case in which we have a great deal of interest; to see that patient transferred into less competent hands and in whom we have no faith and see that patient go down until the end comes, or usually sent back to us for further treatment in a worse condition than before. In my community, just like in yours, I have a case every now and then who loses confidence in me simply because I do not heal the patient immediately. An osteopath, chiropractor, a Christian Scientist comes along and says, "Employ me, I will cure you in no time." This is often done as you all know and the people believe it too often. We are turned down and the other individual gets the patients. We nearly always get those patients back again unless the undertaker gets them first. If we are going to correct this sort of a difficulty it looks to me as though we have to perfect the medical profession so that the people will have more confidence in what we say. If we cut out about two thirds of those men who desire to make physicians of themselves and perfect the other third, educate them more thoroughly, men of absolute competence and natural ability, it will naturally impress the people of the land that the medical profession is made up of real, genuinely good stuff. You talk about the need of more favorable legislation; the class that is concerned in legislating are not working in our behalf. It is almost impossible to get them interested. We count a little but not very much. The fellow that gets the money is the one that can pay somebody to be on the job to help legislate. Let those fellows be represented as loyally as possible if they wish, but for us, we will perfect ourselves and be honest. If I can look a patient right square in the face and have that man believe what I say to him he is not going to any quack. He may call in a better physician, a man who stands higher in the professional world than I do; that is exactly what should be done and we should encourage more consultations in questionable cases. If we as practitioners find we are getting into difficulty, let's by all means impress on the patient's mind that we should call in a man in whom we have more confidence than we have in ourselves. When we do that we will not have so much worry over the quack problem. We should above all strive to perfect the practice of medicine.

DR. T. J. DOWNING, New London: The gentleman properly laid stress on the perfection of medicine and in condemning the easy method of making quacks. This question bears on the subject we had up in the House of Delegates this morning. There is perfect health and a general good feeling on one side, on the other side health, but things go wrong and we don't feel well. There is a narrow line between health and disease, which field is largely neglected by the medical profession; a field growing up in weeds. We are

called over to see the patients who do not feel well and we try psychic measures with them. We make one call and that ends our services on the case. That is not practicing medicine. We are turning that field over to the quacks daily. If a man happens to fall into the hands of a quack he may get his money once but the quack loses out in the end. It is those people who are not really sick with whom the quack is successful. It is they who are the prey of the quack. They come to us but we don't treat them as we should and they go elsewhere. We neglect them.

DR. M. L. PETERS, Closing: I am glad to have stimulated such an interesting discussion, but if I emphasized or dwelt on the fact that I was opposed to medical education I am sorry because I did not intend to do that. What I want to emphasize is the fact that we are raising medical standards every day and making laws to govern ourselves but doing nothing to govern the other fellow and make him act right. As to making the practice of medicine a rich man's job I still contend that a man is much better off if he knew he would not have to work eight or ten years to get through medical school. It is a big hill to climb when a fellow enters the field of medicine, but that is not the question. I would like for the other fellow to have to do something too. I don't want to spend all my days and money preparing myself to treat the sick and then the other fellow be permitted to come in without preparation and take in the money. As to the perfection of medicine and requirements to practice medicine as a means of driving out the quacks, of course we differ on that. If every doctor was a graduate of Johns Hopkins, the quack would go ahead and get the business just the same.

DR. H. S. CRAWFORD, Harrisonville, chairman: These meetings have always been of special interest to me and one of the many things that appeal to me is the fact that we can discuss in a heart to heart way, just like members of one family, the problems that confront us as secretaries and all those who have served as secretary know we have problems. Two problems discussed at these meetings year after year are, how can we make the programs more interesting, and how can we best maintain the attendance at our medical society meetings. Dr. J. J. Gaines, Excelsior Springs, secretary of the Clay County Medical Society, will open the discussion on "How Can the Attendance at the County Medical Society Be Maintained?"

DR. J. J. GAINES, Excelsior Springs: Three years ago when I was made secretary of the Clay County Medical Society I began at once to be as busy as I could be. I went to work on a different scale than that we had been used to, and the first thing I found necessary was a lot of hard work on the part of the secretary.

Second, I keep the members posted as to what is going on in the Society. Men are not interested in things they know nothing about.

Third, I emphasize the importance of the Society making a good showing before the state at large. I report regularly to the State Journal and keep our Society in the public eye in that way.

Fourth, I try to make it a decided disadvantage to be unknown, and to be unknown is to remain outside the County Medical Society. If you want to be known, the first thing to do is to join the County Medical Society.

Fifth, have good programs. Don't be afraid of asking some man to write a paper who is worth hearing.

Sixth, our Society is in its infancy. We are going to grow.

DISCUSSION

DR. R. E. CASTELAW, Kansas City: The proposition of getting members interested in Society work in the country and getting them interested sufficiently to attend the Society in the towns of larger population is altogether a different thing. My experience is based on my connection with the second largest county society in the state. We have an average attendance of about 100—about 30 or 35 per cent. It is hard to interest doctors in anything that is even so near a side issue to the practice of medicine as is the County Medical Society. You would think any member would attach himself to and be almost as active in his medical society as he is to the practice of his profession, but he is not. We have members of the organized profession who, as far as I know, have never been to a meeting of the Jackson County Medical Society, and they have lived right there in Kansas City for years; there are a dozen members of the Jackson County Medical Society that I have not seen at a meeting in twelve years. They pay dues but never think of preparing a paper. I go to the medical society just as regularly as I go to my work. I have not missed a meeting this year or last and don't suppose I have missed a meeting in the last five years. It is mighty hard to get a man interested if he don't care particularly about it. There are certain phases of the medical society which have peculiar interest. I work at medical society work when I ought to be working at my private business, and so when you find men of the opinion that this group of men is, men who are already interested, of course you think it is an easy matter to get men to attend the medical society, but what about the men who don't care anything about the society? What are you going to do with the men who care absolutely nothing about organized medicine?

DR. J. Q. COPE, Lexington: About five years ago we had a row in our county medical society and the state council took our charter away and ordered reorganization. When we reorganized I was elected secretary. I have found that the position of secretary since that row would fit the German seat of war pretty well. We still have about the same number of members and today every member in the society is paid up. But we have certain members who absolutely refuse to do anything more than pay dues while other members respond every time they are called on. The hardest work is to get the men to take active part in the society. If any of you have found a plan to bring out that group and put them to work I would like to know what it is. As an illustration: At the beginning of this year I sent out pleading notices to every member telling them we wanted to get up an attractive program for the year and asked each to send me two subjects with which they were familiar and on which they would prepare something to say that would interest the other members. I gave them plenty of time to prepare the papers and I had a reply from one man. What, under such circumstances, are you going to do? We succeed in getting them to pay but we can't get work out of them. One thing, if we can get it thoroughly imbedded in their minds that the county medical society is for their benefit and the only way for them to get benefit out of it is to come and work, we might have some results. The society will not be worth anything to them unless they do.

I find one tendency growing in our societies close to the cities to send off to the cities to get men to come in and entertain us on our programs; this is a very common thing. That is all right at times and we very often get men that read good papers, but I fear it is not going to stop there. I have had more than one request from city men to come out and appear on our programs, and I know that our own members are

better qualified to read a paper than some of them. They are advertising themselves and they seize every opportunity to get on a program for that purpose. I like to hear the man from the city, but something more important is to encourage your own members to write papers. If you do not urge presentation of papers by your own members you are going to lose your own usefulness to the society. Secretaries, make your members see that. I am much more apt to listen to a paper written by one of our home members who attends the meetings regularly and who I know has worked hard to prepare it, than to listen to some man who has appeared all over the state on the county society programs reading the same paper. I have noticed the reports in *THE JOURNAL* and it's the same men nearly every time. I think the program committees ought to be on guard against that. Teach members that the society is for their benefit and not for the benefit of the men outside. Entertainment is all right but it does not educate our own members. I believe the tendency to bring in outsiders is leading to an influence that in time will be bad. Members themselves must do the work.

DR. C. H. DIXON, Moberly: As councilor of the district composed of three counties, I take particular interest in the activities of those societies. In one of those counties we have an active secretary. He has been secretary ever since I have had any knowledge of the district and I never have to go in that county because they do better without me. In referring his report to me last week he made apology because five members had not paid their dues. While in one of the counties they pass the secretaryship around as an honorary position every year and as a result they have no active secretary and an inactive membership. Much depends on an active, energetic secretary. He ought to be on the job all the time and never lose an opportunity to say a good word for the county medical society. I felt like saying this as a compliment to you gentlemen on whom I think depends everything. You are on the job and I am confident you will meet with large success in your undertakings.

DR. LESLIE RANDALL, Licking: We have had reports from the thickly settled counties and cities. I represent the biggest county in the state with some twenty members in the county medical society. There are sixteen members paid up for this year and four who are not. Three have never been to the medical society since its organization five years ago and I have been secretary every year except one. Then another trouble; we are an inland town and it is a long way to a railroad and we don't have the outside men come to us. We have never had anyone but the state secretary once or twice and the councilor once, at the time we organized, and our trouble is to get men interested. We have five, six or seven in attendance at our meetings. I go twenty miles to the meetings and you know that the practice of medicine is much harder out in the woods than in the city. We have long office hours, but I always make it a point to attend the meetings of the medical society, and our difficulty is to arouse interest and get members to attend the meetings. I am very glad to hear the talks on this subject.

DR. F. W. TUTTLE, Mt. Leonard: In the Saline County Medical Society we have a membership of thirty-two with an average attendance of thirteen. I am serving my second term as secretary and this year know more about the work. I use different methods to bring out the members. I often send two or three notices for one meeting. Sometimes two or three months go by that we do not meet; then I send a notice that we are alive and are going to meet at a certain time. Later I send a follow-up postcard with the question of whether or not they would be

present. I make personal calls on members who do not attend, and we don't neglect the banquet feature. We appeal to them through their stomachs once in a while. There are some whom we can't get out under any consideration, but I use these three methods to get our members out.

DR. J. H. TIMBERMAN, Marston: We have had a couple of meetings since my term expired as secretary, but these annual meetings of the secretaries are always of particular interest to me. I have learned from experience that it is good to change the tactics occasionally. In each of the three counties in my councilor district we have our annual fish fries and picnics, and these are the meetings at which we have our best attendance. We usually take our wives and have an all day affair. In spite of the fact that we have the unusual feature, we do not allow it to interfere with our usual scientific program. We often invite some man from an adjoining county or some other nearby society; he isn't a city man and we are glad to have him come. I believe there is a great deal in changing the tactics and plans. The follow-up system is a good system. We often call the fellows up by phone the morning of the meeting and remind them to be on hand and it always helps to swell the attendance.

PROCEEDINGS OF THE WASHINGTON UNIVERSITY MEDICAL SOCIETY

Twenty-Ninth Meeting, Monday, March 13, 1916

1. EXHIBITION OF CASES.

A. A CASE OF MENINGEAL IRRITATION.—
By DR. P. P. GREEN.

B. A CASE SHOWING RECOVERY AFTER
SEVERE SECONDARY HEMORRHAGE.—By
DR. WILLARD BARTLETT.

Such a high mortality has followed severe secondary hemorrhage consequent on the removal of malignant tumors of the jaw, floor of the mouth or tongue (where the safeguarding lymph glands and channels must of necessity be excised) that the recital of the following case and successful treatment may be of value.

CASE REPORT

Mr. H. S., aged 54 years, complained of a painful lump on the lower left jaw.

Personal history: Patient has always had good health. Uses tobacco moderately. Has slight headaches, which are relieved by glasses. The teeth are poor; slightly constipated.

Previous diseases: Typhoid, pneumonia and malaria in early manhood and slight attacks of rheumatism for the last few years.

Marital: Married thirty-one years; had eleven children, nine living and well.

History of present illness began Oct. 12, 1915, with pain in the lower left jaw. Trouble was thought to come from an old tooth, which was pulled, but the trouble persisted. Oct. 28, 1915, a lump was noticed at this site, and there has been no increase in size to this time. There has been no symptom except foul breath.

Objective symptoms: Good appearance; weight, 203 pounds; height, 5 feet 8½ inches; blood pressure, systolic, 130; diastolic, 85; hemoglobin, 85 per cent.; clotting time, four and one-half minutes; heart, lungs and urine normal.

The gum at the site of the lower left bicuspid is the seat of a sloughing tumor, the size of a small pecan, which extends toward the floor of the mouth, and surrounded posteriorly by an area of leukoplakia. No glands or extensions can be palpated or seen. The

breath is foul and many teeth are missing; those present are decayed and surrounded at the base by soft spongy gum from which pus can be expressed at will.

Diagnosis: Cancer of lower left jaw.

Operation: Under intrapharyngeal anesthesia we made a Kocher incision down the middle of the chin and well under the jaw bone; then removed in one piece the lymphatics of the superior cervical triangle, the submaxillary gland, part of the floor of the mouth and all of the left half of the inferior maxilla as far back as the angle. The mouth was entirely closed and the defect packed with iodoform gauze down to which the platysma and skin were sutured.

The blood pressure at the beginning of the operation was systolic 115, diastolic 75; and at the end of the operation it was systolic 110, diastolic 80.

The postoperative course was uneventful, and the patient was discharged twelve days after operation with all the wounds healed except a small one in the neck where the drain had been; it was discharging a little pus.

Dec. 14, 1915, thirty-six hours after his return home, he was awakened by a profuse hemorrhage from the neck and mouth, losing about a quart of blood. He was taken back to the hospital, given morphin gr. one-fourth night and morning, and the wound was irrigated twice daily with 95 per cent. ethyl alcohol. The blood pressure taken on admission was systolic 127, diastolic 60, the hemoglobin was 85 per cent., T. P. R., were normal.

He did well for four days, the discharge diminishing about one half, but the blood pressure had fallen steadily to systolic 100, diastolic 65, hemoglobin 80 per cent. December 18 he was awakened by another hemorrhage which was stopped by compressing the common carotid artery between the thumb and the carotid tubercle. About 400 to 500 c.c. of blood was lost and the pressure fell to systolic 90, diastolic 65. He was given morphin, and next day the pressure was 80 systolic, diastolic 55, hemoglobin 75 per cent.

At 7 p. m. December 19 he lost about 50 c.c. of blood, the hemorrhage being stopped in a few seconds by pressure on the artery as before. He was quieted with morphin and slept all night, but the next morning was very nervous, had no appetite and the anemia was very marked, so he was taken to the operating room and the common carotid artery was tied under local anesthesia.

Operation: Through a cross incision 4 cm. above the clavicle we cut across the sternomastoid muscle and ligated the left common carotid artery with chromic catgut. After complete closure, we freely split the original flap upward and packed the defect with iodoform gauze.

Immediately after the ligation the blood pressure rose to systolic 140, diastolic 75, and the hemoglobin was 60 per cent. During the next ten days the pressure gradually fell and the hemoglobin increased to systolic 115, diastolic 75 and hemoglobin 75 per cent.

He was given morphin night and morning the first three days for restlessness; feedings and liquids were forced.

Two hours after the artery was tied the patient complained of a dull headache, which disappeared in eighteen hours. Eight hours after the operation the right hand was numb for an hour, but in twenty-four hours the numbness returned for about thirty minutes and was present each morning on awakening for six days. Twenty-four hours after operation a "creepy" feeling was noted on the left side of the head, which came and went for five days and lasted about twenty minutes at a time.

The patient was discharged from the hospital twelve days after the ligation with all the wounds healed and normal in every way.

* A review of the literature shows the remedy to be less dangerous than the disease. The mortality of

the ligation is from 31 to 44 per cent., and cerebral symptoms follow in 20 to 27 per cent. of the cases. In many cases the cerebral symptoms were only transitory. In 1901 Schlatter collected 789 cases of ligation, and of those who lived a short time or recovered, 7 per cent. developed paralysis.

The mortality of hemorrhage is 100 per cent. where the slough goes down to the common carotid after ligation of branches of the external carotid.

Ligation of the external or common carotid artery is not so dangerous as ligation of the internal carotid, and it is stated that double ligation of the common carotid arteries is not more dangerous than a single ligation if the second artery is tied after an interval of a few days or weeks.

DISCUSSION

DR. ERLANGER: Dr. Bartlett's question is not an easy one to answer; at least one phase of the blood-pressure reactions seems rather difficult to explain. If I recall the figures correctly, Dr. Bartlett found that after the first hemorrhage the systolic blood pressure rose from 115 to 177 mm. of mercury, whereas the diastolic pressure fell from 75 to 60 mm. Now, inasmuch as the mean blood pressure follows the diastolic pressure much more closely than it does the systolic, we may, I think, conclude from the figures given that the blood pressure actually fell after the hemorrhage. The increase in systolic pressure is difficult to account for. It is possible that the hemorrhage was not sufficient to cause a very marked fall of pressure through actual loss of fluid, or that what loss of fluid there was very quickly was restored by the entrance of fluid from the tissues into the circulation. The supply of fluid to the heart would thus remain ample, while the reduced viscosity of the blood might result in a very sharp and sudden rise of the systolic pressure despite the fall in diastolic pressure. It should be added that a fall of 15 mm. of mercury in diastolic pressure is not to be regarded as inconsiderable.

The rise of pressure following the ligation of the carotid artery is to be expected because of the increase in the peripheral resistance resulting from the withdrawal of a large section of the bed and because of the cerebral anemia which is always responded to by a general rise of blood pressure. The subsequent gradual fall of the blood pressure is to be accounted for by the readjustment of the circulation to the altered conditions.

DR. TERRY: This question of death following ligation of carotid artery has come up several times in the course of these meetings, and I think it has been pointed out before that investigation into the cause of death following ligation of one or both carotids indicates that the mortality is in direct relation to the number of those variations of the arterial circle of Willis, which precludes a sufficient anastomosis and supply to the brain.

2. THE PROTEIN SPARING ACTION OF CARBOHYDRATES.—By H. H. SHACKELFORD.

Carbohydrates fed to a starving person cause the nitrogen excretion to be much lowered. In order to maintain nitrogen equilibrium when 15 to 20 gm. of protein are fed per day, it is necessary to add carbohydrates and fats to the diet, or the body uses its own tissues to supply the necessary fuel. This effect of saving the body protein is spoken of as the protein sparing action of carbohydrates. An analogous effect of the carbohydrates exists in cultures of bacteria and molds.

With the idea of finding something of the nature of this sparing action these experiments were undertaken:

Two hundred c.c. of culture medium placed in Erlenmeyer flasks, sterilized, inoculated with spores

of *Aspergillus niger* and *Penicillia*. At the end of ten days a mat had formed over the surface and was covered with spores. The medium was removed from the flasks by suction, sterile wash water added, allowed to stand several minutes and removed. To the respective flasks were added various solutions each week, to find their effect on the autolysis of the mold. Water used as control. The media plus the wash water made up to definite amounts and portions taken for nitrogen, sugar and titratable acidity determinations. The different series were run from six to eight weeks and the amount of autolysis which had occurred during that time under the various conditions determined.

The results of the experiments show that the addition of carbohydrates reduces very markedly the autolysis of mold cultures; that beyond a concentration of 1 per cent. glucose there is no additional sparing action, and if weaker solutions are added the sparing action decreases correspondingly.

The medium of the flasks containing sugar is quite acid at the end of a few days, due to the production of oxalic acid in the metabolism of the sugar; the acidity increases with an increased amount of sugar used. If calcium carbonate is used in addition to the sugar solution, the oxalic acid is precipitated and the autolysis is decreased still further. The addition of acids to the cultures increases the autolysis.

Mercury solutions increase the autolysis, and when added in sufficient strengths to kill the organism, the addition of carbohydrates no longer has any effect in decreasing the amount of autolysis. Toluol and chloroform have the same effect as the bichlorid.

If nitrogen is added weekly in the form of urea or ammonium salts, the autolysis is not only reduced, but the organism appropriates part of the nitrogen for its further growth.

In all of the series, where water alone was added weekly, the medium had a brown color at the end of the week. In the flask to which sugar had been added the medium was colorless, likewise was this true of flasks which contained mercury. The color is not an indication of the degree of autolysis, but depends on the presence or absence of acid. The oxalic acid in the flasks containing sugar prevent the pigment of the mold from going into solution, while in absence of acid in those containing water, the pigment is soluble.

These experiments tend to show that carbohydrates have the power of reducing autolysis only if the organism is alive. They point to the fact that this sparing process is a mere substitution of isodynamic material, since it is shown by the addition of either carbohydrates or nitrogenous substances.

3. THE HYPOPHYSIS IN REPTILES.—By DR. E. A. BAUMGARTNER.

The epithelial portion of the hypophysis in turtles, lizards, snakes and alligators is first indicated in its development by a thickening of the pharyngeal roof. Four evaginations then develop, of which the first, Rathke's pouch, is medial in position. Two lateral buds are constricted from the sides of Rathke's pouch (turtle) or develop at either side (lizard). The thickened epithelium anterior to Rathke's pouch evaginates and forms the so-called anterior bud. The resulting four-lobed structure is then constricted from the oral roof and a stalk formed. Rathke's pouch and the lateral buds open into the caudo-superior part of the anterior bud.

In later development the dorsal tip of Rathke's pouch forms the pars intermedia of the adult; the anterior bud and the remainder of Rathke's pouch form the anterior lobe. The lateral buds grow cephalo-dorsally in turtles and alligators, surround the anterior lobe and fuse to form a tongue-like pars tuberalis, which lies in contact with the floor of the third ventricle. The parts surrounding the anterior lobe form

a thin cortical layer (turtle) or bands (alligator). In lizards the dorsal tips of the lateral buds may become separated and form isolated masses embedded in the meninges, or as in snakes, they may entirely disappear.

The tip of Rathke's pouch, or pars intermedia, the pars tuberalis, and the anterior lobe are homologous with similar structures in mammals. The cortical layer or bands surrounding the anterior lobe and derived from the lateral buds in turtles and alligators may be homologous with a similar layer recently described in pig.

The anterior lobe is formed of acidophilic, basophilic and clear cells; the pars intermedia of faintly staining cells; the cortical layer and pars tuberalis, of clear cells.

DISCUSSION

DR. TERRY: There are two points in Dr. Baumgartner's paper that strike me as especially interesting. One is the fact that Dr. Baumgartner was able to localize quite accurately in the development of the hypophysis the origin of the intermediate portion from the tip of Rathke's pouch; the second point is relative to the cortical band. Regarding the latter, it has been known for some time that there is a difference, in the staining reaction at least, if not in morphologic characteristics, between the surface cells of the hypophysis and those deeper within, the deeper cells being differentiated by their affinity for eosin stain. In view of what has been observed in pig embryos, the development of the superficial layer somewhat distinct from the rest, and the origin of the cortical zone in reptiles distinct from the rest of the anterior lobe—that is, in the constant lateral buds—it would appear that it might be profitable to search in the hypophysis of man for the origin of the cortical layer in a field corresponding to that of its origin in lower forms.

DR. DANFORTH: Dr. Baumgartner speaks of the different staining reactions that the several kinds of cells show. I would like to ask him if the cytoplasm presents any granular conditions indicative of secretion, or if he finds other cytologic evidence of functional activity. Another point of considerable interest is the question of the blood and nerve supply of the hypophysis. Has that been studied in these reptiles?

DR. SACHS: The question I have in mind is in line with that of Dr. Danforth. Some years ago there was a paper in the *Archive d'Anatomie Microscopique*, in which were described a number of different kinds of cells in the anterior lobe. These were recognized by different staining reactions. The paper was reviewed, I remember, at the Anatomical Seminar. I would be interested to know if Dr. Baumgartner was able to differentiate many cellular types. I gather he did not.

DR. BAUMGARTNER: The cells in the anterior lobe show a good many granules and usually on the peripheral side of the tubules, and there is a colloid-like substance in some of the tubules.

There is apparently no definite artery going to the hypophysis, as has been described in mammals. The blood supply apparently comes indirectly from the carotids which lie on either side of the hypophysis in all the forms of reptiles. Small vessels from them go to the brain and then down to the hypophysis.

As to the nerve supply, there are no fibers going down from the infundibular part, although that has been described in several forms of mammals. The nerve supply is usually described as sympathetic.

I do not know just what paper Dr. Sachs is referring to. A Frenchman, Gentes, has described chromophilic cells and chromophobic cells, dividing the chromophilic into the acidophilic and basophilic types, and besides those, clear staining cell. These three are only intermittently present. Then there are all gradations in the amount of eosin that the cells take or in the amount of any acid stains that the different cells take.

4. THE DIAGNOSIS OF RENAL INFECTIONS— AN ANALYTICAL STUDY OF 182 CASES.—By DR. JOHN R. CAULK.

In this paper 182 cases of various types of renal infections are studied, particularly with reference to the diagnosis previous to admission. This was done with the hope of determining whether or not kidney lesions are usually appreciated. These infections are divided into six groups: pyelitis, pyelonephritis, pyonephrosis, renal calculus, tuberculosis and perinephritic abscess. A brief discussion of the various methods by which a proper diagnosis can usually be made is given. Following this a statistical study of this series is undertaken. In pyelitis only 9.7 per cent. of the cases came with the correct diagnosis; pyelonephritis, 7 per cent.; renal calculus, 26.5 per cent.; pyonephrosis, none correct; tuberculosis, 13 per cent. correct; showing the astounding proportion of faulty diagnosis previous to admission. The author then shows that practically all these cases had unmistakable evidence of renal disease, had proper methods been employed for the investigation. The commonest mistake in the previous diagnosis was that of malaria and appendicitis. For instance, in renal calculus, 26 per cent. of the patients had had the appendix removed for the pain. This unquestionably demonstrates a lack of proper study of cases. Thirty-seven per cent. of the cases of pyonephrosis had been treated for long periods for malaria.

DISCUSSION

DR. H. MC. YOUNG: I cannot add anything except to emphasize as much as I can some of the points that Dr. Caulk has made.

The importance of urinalysis is certainly neglected. When pus is found in the urine there is something there that does not belong there and requires further investigation. Practitioners are too apt to simply say it does not amount to anything, and if there is a trace of albumin to say that it comes from the pus. Well, it generally does not, unless the pus is in considerable quantity. If albumin is present very distinctly and there is a small quantity of pus, you may be sure that the albumin is from some kidney trouble and the pus probably is also from the kidney in such cases. Nearly always when there is any infection in the kidney, as in any of the conditions, such as Dr. Caulk has described, it will give some evidence in the urine; so that the bad record the medical profession at large has in these cases is really not easily to be excused.

Another point which should be emphasized is the value of the drainage of kidneys through the ureteral catheter, and conservative treatment. I have been very much impressed by some results I have seen recently in that line. I remember one case of double pyelitis. The kidney function was very good, but the urine was exceedingly cloudy, milky. I washed the renal pelves out once a week for several months. I increased the strength of silver nitrate solution as high as 5 per cent., and for a long time it did not seem to make any difference. Then, suddenly, the urine cleared up. The patient had one relapse; one single treatment cured him, and he has had a perfectly normal urine for as much as three or four months. I think that man is cured.

DR. TUTTLE: Dr. Caulk shows that his clinic has exactly the same experience in dealing with adults, as we have, who deal largely with children, in finding a great many overlooked cases of pyelocystitis. Up to very recently, since medical education has been so much improved in the line of pediatrics, these cases were always overlooked and treated for, as he says, one thing after another. We have seen cases of that kind operated on for appendicitis.

I wish to ask Dr. Caulk to tell us one thing in his summing up, and that is whether he has had any

experience in using his ureteral catheters in washing out the pelves of young children for these kidney infections.

DR. ROBINSON: Dr. Caulk's paper indicates the great advantage that the patients have who come into a dispensary where there is teamwork, because, after all, it is by these cases being referred to the experts that they are finally discovered and properly treated.

DR. CAULK: In answer to Dr. Tuttle's question, I will say that I believe the great majority of the pyelocystitis cases, so called, in children clear up by proper medication, hygiene, diet, etc. There are a few of them, however, that we have encountered, who have resisted all sorts of treatment, the usual standard treatment, on whom we have had to do pelvic lavages. In girls we have been able with the cystoscope to catheterize the ureters and wash them when they were only 6 to 7 years old. We have catheterized two boys at 9, one at 8. It is not a very easy procedure in boys, unless they are well developed, and we try, naturally, not to do any trauma in instrumenting young boys, because we would rather let them go with the pyelitis than to give them traumatic stricture of the urethra. But we have been able to clear up several cases in children by pelvic lavage that we would not otherwise have cleared up.

Before closing, I may say we hope the serologic department will give us some valuable aid in vaccine treatment. I did not mention it in the paper because I was not prepared to give any definite results, but we have really been face to face with some quite striking things lately in the administration of vaccines for pyelonephritis. I cannot say anything about it yet, for I do not know, but we have had two or three cases which have resisted everything else, and in spite of the way we have condemned vaccines in our genito-urinary work, we have seen some interesting results from the mixed colon vaccines. I have used the unscientific stock vaccines of Parke, Davis, so I really want in these classifications to get down to real scientific work of the laboratory men and see if we cannot learn something on that side.

THE SURGEONS' CLUB OF ST. LOUIS

Dec. 22, 1915

(Continued from July Number, page 364)

HIRSCHSPRUNG'S DISEASE. — By DR. JOHN YOUNG BROWN.

Clayton P., aged 4, was admitted to St. John's Hospital Dec. 7, 1915. The following history was obtained from his mother: The child was born Feb. 12, 1911. The third day after birth the bowels had not moved and the abdomen was found to be greatly distended. An enema was given with good results and the distention was somewhat reduced. From birth the child never had a normal bowel movement and he was made comfortable only by the constant use of enemas given by his mother, who is a trained nurse. The abdomen at all times was greatly distended and the colon could be distinctly outlined. The child began teething at 4 months and walked at 14 months.

Aug. 22, 1913 he was taken to a doctor in California. After consultation, a diagnosis of Hirschsprung's disease was made and immediate operation advised. Owing to the extremely poor condition of the patient, an artificial anus was made in the median line below the umbilicus. Dec. 4, 1913, an operation was performed and the surgeon informed the mother that he had removed five-eighths of the colon. The operation was followed by a fecal fistula which remained open for several weeks. No relief was obtained. From that time on until the patient came under my care, he was kept alive by careful feeding and the constant use of the rectal tube.

On admission to the hospital he was pale and anemic. Examination of the abdomen showed marked distention and what we took to be the colon could be clearly outlined. Roentgen-ray plates were taken after the injection of bismuth by rectum and given by mouth. From the physical examination and the Roentgen-ray plates, we concluded that the colon had not been removed, which conclusion was verified at operation. Dec. 6, 1915, the abdomen was opened. After freeing omental and bowel adhesions a colectomy was performed and a lateral anastomosis of ileum to sigmoid was made. The specimen shows the colon intact.

No technical difficulties were encountered and the patient left the operating table in excellent condition. Twelve hours after operation his condition was good and indications pointed to a quick recovery. At 2 o'clock the next morning he became quickly cyanotic and died suddenly from what we took to be a pulmonary embolus. In connection with cases of this type, I am convinced that the primary operation should precede colectomy; in other words, the colon should be put entirely out of commission and should do a cecostomy and treat the colon before doing a colectomy or before doing any other operative work.

DISCUSSION

DR. C. E. HYNDMAN: I would like to ask if Dr. Brown means he would do a colostomy or a cecostomy at the primary operation or anastomose the ileum to the sigmoid.

DR. E. SACHS: This past week at the Children's Hospital they had a necropsy on a case of Hirschsprung's disease, who had not been operated on, and one of the things that the pathologist pointed out is rather characteristic of the disease; that is, the rest of the intestine also showed distinct hypertrophy. It was evident from his demonstration in that case that he believes the best treatment of Hirschsprung's disease is a colectomy; but in view of the fact that the small intestine does hypertrophy and that in some of the cases reported after the colon has been removed, the small intestine above the anastomosis has again hypertrophied, it always seemed to me that it is not at all proved that such procedure is the best in these cases.

DR. ROLAND HILL: I have had three cases of Hirschsprung's disease in the last four years in the work of Dr. Saunders. He did not wish me to do a colectomy, so in two we did an appendicostomy, and in another an opening of the sigmoid which, of course, just palliated conditions, and while the patients gained materially afterward they never consented to a complete colectomy. It has seemed to me that the primary operation of uniting the ileum with the sigmoid and later doing a colectomy would be the best procedure, especially if the patient would go along for a time and gain a little strength. There is no question in the world that young children are not subjects for surgery, and the younger the child the less resistance it exhibits toward surgical work.

DR. M. G. SEELIG: The case that Dr. Hill recites is one that was admitted some five or six months ago to the Jewish Hospital on which he did an appendicostomy. It was, I imagine, in as bad a condition, if not worse, than when seen by Dr. Hill. I do not believe the mother was prepared to consent to operation. At all events, it never came to operation. At that time I gave considerable thought to the question, and considered that instead of doing a colostomy it would be practically as efficient and much more ideal to do a cecostomy. My idea was to take the cecum in the primary operation and tack it down to the sigmoid, preferably above the point (which you can only tell after you get in), where you will do your anastomosis later when performing colectomy. That was really Riles Eastman's operation. Eastman had the

difficulty that so many men encountered in doing the Lane operation of ileosigmoidostomy, so he devised the operation of cecostomy in order to avoid damming back the fecal stream by retroperistalsis into the ascending colon, and according to his report it worked very well. I wrote and asked him for his opinion of how he thought that would work in Hirschsprung's disease, and he wrote back one of the usual form letters, saying they had nothing to base opinion on, but so far as abstract reason went they thought it would work out very well.

DR. C. M. NICHOLSON: I did a postmortem this afternoon on a child with Hirschsprung's disease, who had died of another condition. What I found seemed to be of great interest and would have interfered with the operation Dr. Seelig just mentioned, namely, the hypertrophy in the rectum seemed to be greater than in any other part of the bowel, and involved not only the colon, the cecum and the ascending colon, but the small intestine for some 5 or 6 inches. This seemed to me to almost contraindicate anything except to make an artificial anus and later on the operation that has been suggested. The distention was enormous.

DR. JOHN YOUNG BROWN: I must admit that I have committed every possible surgical brutality against the large bowel, from the Lane operation to colectomies for intestinal stasis. Now colectomy is an exceedingly serious operation, particularly serious in children, and particularly serious in the condition under discussion. I am convinced that the proper treatment of these conditions is an intestinal exclusion—a complete exclusion of the entire large bowel, making a new anus.

In all cases we find a tremendous hypertrophy, and not only of the large bowel, but of the small bowel. But if we would exclude the bowel, purse string the end and bring the ileum out, making an ideal fistula, and then do a cecostomy, the bowel can then be treated and the patient fed and built up before we attempt to do the colectomy. I have done this in ulcerative colitis and benign obstruction with excellent results.

I do not know of any condition that has subjected the bowel to greater manipulation than the so-called "intestinal stasis," not only in hitching up the bowel, making false adhesions, but the various short-circuiting operations, the colectomies. The mortality is large and the morbidity terrific. But even in doing colectomy for intestinal stasis, in anastomosing the sigmoid, even when you exclude, you get a damming up invariably, and there is a large mortality. So, all in all, this proposition appeals to me stronger than any procedure that I know of.

DR. HILL: Why not bring up your appendix?

DR. BROWN: It is a poor drainage tube, and it is a good thing to have an appendix out anyway. I have published a paper on this complete exclusion. It is an exceedingly simple operation, and if the large bowel is completely out of commission you can restore it without any difficulty.

EXPERIMENTAL DATA OPPOSED TO THE DOCTRINE OF ANOCI ASSOCIATION.—By DR. M. G. SEELIG.

I cannot quite tell you why I framed the title of the paper as I did, except perhaps on the basis of avoiding the bugbear of "vasomotor center," which I have had occasion to find in the last few years scares people off. The object of this controversy, which I can give you in a few minutes, is this:

That the ordinary conception of shock as outlined some twelve or fourteen years ago by Crile, and as outlined many years before that by Weir Mitchell and Kean as a result of their experiences in the Civil War, is that shock is primarily a disease due to vasomotor paralysis:

Now if we will just think of vasomotor center paralysis as we do of paralysis anywhere else, I think

we will be little confused by the term. When we think of a paralyzed arm we think of an arm unable to contract, unable to use itself; and so when a vasomotor center is paralyzed, we have vessels that are unable to contract, namely, flaccid, dilated, passive vessels.

When Crile announced this doctrine, backed up by what has been proved to be dubious experimental proof, he put back of his experimentation and of his views his own remarkable personality to such a degree that the doctrine has stuck and stuck pretty hard, except, possibly, in the minds of the pure science men in medicine, such as the physiologists. It has been rather difficult to set surgeons right, and it is important that we should be set right; it is not any more proper for us to go along with false fundamental notions than it is for the men in the laboratory, and on that basis this work was done, that is, to show that in shock the center that regulates the tone of the vessels is not paralyzed, that paralysis of that center is not a fundamental cause of shock. On that basis I framed the title.

In his last work on anoci association, Crile goes out of his way to say that anoci association has been demonstrated under the microscope, namely, that the brain cells show, microscopically, exhaustion, and that this display of exhaustion which he has been able to demonstrate microscopically only confirms his earlier view, namely, that shock was due to exhaustion of the center. That is pretty clearly and definitely stated by Crile, so that anything he may say to the contrary now, and I understand that he does say something to the contrary, should not hold unless he is willing to withdraw that statement.

It is perfectly easy as a rule to state a positive doctrine, to form a hypothesis and to array evidence in support of it; but it is a mighty difficult thing for somebody to come along and disprove that. If in this controversy the school which constitutes itself the adherent of the Crile doctrine says that in shock the vasomotor center is exhausted, and then you as an opponent come along and say it is not exhaustion, you have got to prove that the center is acting, and that is an extraordinarily difficult thing to do; extraordinarily difficult because if you want to prove that the center is active you have got to show that the blood vessels possess tone—that they can actually contract. Now if you expose a blood vessel to see if it contracts you immediately cut it off from its nervous relationship and it cannot act. If you cut the omentum out and study it under the microscope you are immediately subjected to the criticism that the omentum is not accustomed to such a state, that its normal habitat is within the closed abdomen; so that all the data used to combat Crile's doctrine is not final; namely, we determine how much blood flowed out of a certain vascular territory when an animal was normal, and then how much flowed out when the animal was in shock, and if less it proved that the vessels could contract.

It occurred to me some four or five years ago that if we could only study vessels without disturbing their relationship we would be able to get at the point very well, and the thought of course was very near at hand that we could do that in the eye. So, with the aid of Dr. John Green and Dr. Clarence Loeb, we studied the retinal vessels of dogs. I told the ophthalmologists what we were driving at, and we found that the deeper the animal went into shock the more actively the vessels were contracting, the more actively the center was acting, and from that I concluded that in shock the vasomotor center was attending to business. For me the problem was fairly well settled, until I was approached by Dr. Meltzer with the statement that that would have been very nice work if it were not for the fact that it was all wrong. He said, "Where is the blood in shock?" I said, "In the abdomen." He said,

"That is perfectly proper, the retinal vessel gets small because of that, not because it is contracted." So you see that threw the whole subject into doubt again, and we were confronted with a very definite problem.

After a great deal of deliberation and doubt, really a great deal of doubt, that problem was tackled as follows: We know that it is possible to take the nerve that supplies the vessels of the ears in rabbits and put them out of commission. There is a sympathetic nerve that comes down the neck of the rabbit with a ganglion which contracts. We can resect that. The vessels of the ear then cannot contract, and as a result we would expect to find vessels of a large size in one ear as contrasted with vessels of small size in the other ear because those vessels are in connection with the center and can contract; whereas the others are paralyzed and therefore filled up with blood.

The argument was as follows: There is nothing opposing the circulation in these ears. The vessels can empty themselves perfectly well. If we can shock this animal and the vasomotor center is active, as we supposed it was from our experiments, these vessels ought to contract and get small, because the center is acting. If not, if these vessels remain large, we will know that these vessels did not get small because the center is not active, there being nothing to oppose the vessels from emptying.

We therefore carried out this procedure and then shocked the animal in the hope that we would have one ear turgid and one ear actively contracted, and that is what we found. One ear becomes blanched, almost cadaveric, the other ear remained turgid and full. At this stage of the experiment, this rabbit's blood pressure was very, very low, almost at the breaking point. We have the means at our command of reestablishing it, raising it almost to normal by simply putting a clamp on the abdominal aorta; blood cannot get back to heart then, and that raised the pressure practically to normal. After putting that clamp on we could increase the turgescence of these vessels, but the tonic spasm of the vessels was so great that we could not influence it in any way.

There was still a further proof that we could use, namely: later in the experiment we quickly denervated this ear and the vessels quickly came up to those of the other ear, showing that their contraction was due to impulses received from above.

There is so much that has to be accepted on the face of the thing that we quickly took pictures of the ears. One picture showed the denervated ear widely dilated. A few minutes later the tightly contracted ear, denervated, immediately responded, and both ears became turgid.

I may be pardoned if I say that this particular experiment, first of all, has the sanction and was done in collaboration with Dr. Joseph, our physiologist, so that probably the physiology of it is authentic; and, in the second place, we were fortunate enough to demonstrate this work before the American Association of Physiologists when they met here; and men like Cameron and Carlson agreed that they did not see a loophole whereby the center could be held responsible for failure to act as a primary cause of shock.

SPECIMEN OF TUBERCULOUS KIDNEY.—By DR. W. C. G. KIRCHNER.

I brought a kidney specimen that I removed this morning. The history is briefly as follows: The patient, a young woman about 25 years of age, was taken sick with symptoms simulating typhoid fever. She recovered from this condition, but a physician who was handling the case thought that she was left with a pyelitis, and the germ which was found was the *Bacillus coli communis*, and that was thought to be at the basis of the condition. Vaccines were given and a certain amount of improvement resulted, but a

month or two later, in October, she had symptoms of cystitis. These symptoms persisted, and Roentgen-ray findings showed an enlarged kidney. Tentative diagnosis of tuberculosis of the right kidney was made and substantiated by the operative findings. The examination of the urine, after repeated attempts, showed tubercle bacilli. Operation was done through the rectus muscle, notwithstanding it was a retroperitoneal removal of the kidney. At the apex of one of the pyramids, the central portion, is an induration about the size of a hazelnut. The pelvis is eroded, but the ureter, while thickened, does not show anything especially abnormal.

THE BARNARD FREE SKIN AND CANCER HOSPITAL CLINICAL AND LABORATORY REPORTS

11. HYDROGEN ION CONCENTRATION IN MALIGNANCY AND SOME OTHER PATHOLOGICAL CONDITIONS.—By DR. MAUD L. MENTEN.

During the past year a study of the blood of patients suffering with cancers of the skin and internal organs has been carried on in the laboratories of the Barnard Free Skin and Cancer Hospital. The results of these experiments were reported before the Cancer Research Society which met in Washington, D. C., May 8, and will be published shortly. This work consisted mainly in electrical measurements of the whole blood and serum by means of the "gas chain method." The details of the method are discussed in the paper to be published. By this method one measures the "actual reaction" or the "hydrogen ion concentration."

Before giving the results obtained, a brief statement concerning these two terms may not be amiss.

Pure distilled water dissociates into hydrogen (H^+) and hydroxyl (OH^-) ions, the extent of the dissociation being such that in one litre of water at $22^\circ C$. there is approximately $1/10,000,000$ grains of hydrogen ions, or, as it may be more briefly expressed, 1×10^{-7} . Since in the dissociation of water for every hydroxyl ion formed there is a corresponding hydrogen ion formed, then the concentration of the hydroxyl ions will also be 1×10^{-7} . According to the Mass Law, the concentration of the hydrogen ion (H_c) multiplied by the concentration of the hydroxyl ions (OH_c) equals the concentration of the water ($H.OH_c$) multiplied by a constant (K),—that is $H_c \times OH_c$

$= K$; but since the dissociation of water

$H.OH_c$ is extremely slight, the concentration of the water ($H.OH_c$) may be regarded as 1 and the equation becomes $H_c \times OH_c = K$. The value of K at $22^\circ C$. is approximately 1×10^{-14} . Therefore $H_c \times OH_c = 1 \times 10^{-14}$. In distilled water, the H and OH ions being equals, the value of each of these (as already stated) is 1×10^{-7} . Adding acids to water increases the number of H ions, and since the Mass Law holds under these conditions, the number of OH ions is decreased proportionately. An acid solution, therefore, is one which has an excess of free hydrogen ions, or a hydrogen ion concentration greater than 1×10^{-7} . When alkali is added to water a reverse process takes place. If one knows the H ion concentration, the OH concentration may be determined from the formula given so that the actual reaction of any solution, whether acid or alkaline, may be expressed as the hydrogen ion concentration. The "actual reaction" of a solution has to do only with the dissociation H and OH ions, while the "total reaction" deals with all of the acid or alkali present, both in its dissociated and undissociated form. The results obtained in our

measurements are expressed as hydrogen ion concentrations. The reaction of normal blood is only slightly above normal and when these values are indicated in the way just mentioned the use of very large fractions is necessitated. To avoid the use of these, Törncsen introduced the so-called hydrogen ion exponent (written pH), that is, the common logarithm of the concentration of the hydrogen ions expressed as a positive instead of a negative number. The exponent of 1×10^{-7} is 7.00, which represents the neutral point. Numbers above 7.00 indicate an increase in alkalinity; as values decrease below 7.00, the acidity increases. Since comparison of values is usually easier by means of the hydrogen ion exponent, they are used in referring to the results obtained.

Expressing the values obtained in our measurements in this way, normal human serum containing a minimum amount of carbon dioxide was found to have a pH lying between 7.90 and 7.94. In various pathologic conditions this figure may be increased or decreased. In advanced chronic nephritis and heart lesions accompanied by dyspnea, the acidity is increased. In some cases this may be very marked. A similar increase was found in cases of rheumatism, tuberculosis and pemphigus. Perhaps the most interesting results were obtained in cancer. About seventy cases were studied and in these with only a few exceptions a very high alkalinity was found. This was especially marked in carcinoma of the internal organs. The highest value of pH , 8.44, was obtained in an advanced case of carcinoma of the stomach. While the serum of patients suffering from cancer of the skin did not show as high an alkalinity as when the growth occurred internally, most of these were well above the normal. In three cases of epithelioma of the lip the reading was normal. It is also interesting that in diabetes, not associated with acidosis, the alkalinity of the serum was also considerably above the normal. In a large number of cases measurements on the whole blood were also made, but the small variations in the serum due to pathologic conditions were found to be marked in the whole blood because of changes brought about by the influence of the barometric pressure. Within certain limits the alkalinity of the whole blood is intimately related to the pressure, and possibly other external conditions; and this relationship can be expressed in the form of a curve very much like an autocatalysis curve. This phenomenon probably accounts for the failure of previous investigators who have nearly all examined whole blood to obtain any change in alkalinity characteristic of any particular disease.

The results may be summed up thus: In certain diseases variations of the serum do occur. In cancer the serum is invariably more alkaline than normal. However, this alkalinity—since it occurs in other diseases—is not specific for cancer. Whether it is a symptom, or related to the cause, has not been determined, but certain observations that have been made would seem to indicate the latter.

12. SPECIFICITY OF THE WASSERMANN REACTION.*—By DR. RUDOLPH BUHMAN.

The frequency with which positive Wassermann reactions are obtained in diseases other than syphilis, as per the numerous reports in the literature, was the incentive for the following contribution. The Wassermann reaction was made on a series of cases, none of which presented any clinical evidence of syphilis; only a few gave a vague history of the disease. The cases were selected from the abundance of material furnished at the Barnard Free Skin and Cancer Hospital. The material investigated may be divided into three groups.

* Abstract of paper read before the American Gynecological Society.

TABLE 1.—SKIN DISEASES

Disease	Number	Negative	Positive	Weakly Positive
Pityriasis rosea	8	8	None	None
Scabies	15	15	None	None
Dermatitis	5	5	None	None
Eczema	25	25	None	None
Total	53	53	None	None

TABLE 2.—MALIGNANT DISEASES

Disease	Number	Negative	Positive	Weakly Positive
Sarcoma	12	12	None	None
Malignant adenoma..	15	15	None	None
Glioma brain.....	2	2	None	None
Carcinoma	107	96	9	2
Total	136	125	9	2

TABLE 3.—MISCELLANEOUS DISEASES

Disease	Number	Negative	Positive	Weakly Positive
Trichinosis	3	3	None	None
Pernicious anemia... 4	4	4	None	None
Hodgkins disease.... 3	3	3	None	None
Sporotrichosis	3	3	None	None
Scarlet fever.....	15	15	None	None
Leprosy	6	3	3	None
Tuberculosis	35	33	2	None
Malaria	10	10	None	None
Arthritis	6	6	None	None
Meningitis	10	10	None	None
Streptococcus infection 4	4	4	None	None
Total	99	94	5	None

In Table 1, comprising skin diseases, there were fifty-three reactions made, with negative results in all of the cases.

In Table 2, comprising malignant diseases, of the 136 cases, 125 gave negative reactions, nine positive, and two weakly positive. Of the nine positive reacting cancer cases, six became negative or remained only weakly positive under syphilitic treatment. The remaining three cases discontinued treatment or failed to return for later observation. The two weakly reacting ones were carcinomas of the cervix. Amicroscopical examination was made in every case for confirmation.

In Table 3, comprising various diseases, ninety-nine reactions were made, ninety-four reacted negatively and five positive. Three of the five positive reacting cases were tuberculous leprosy. The other two positive reacting cases were tuberculosis of the lungs; in neither case could syphilis be excluded.

CONCLUSIONS

A strong positive reaction with proper controls and accurately titrated reagents is conclusive evidence of syphilis, excepting a few diseases which can easily be excluded clinically.

The diagnosis of syphilis can not be made on a weakly positive Wassermann reaction without some clinical evidence of the disease.

A negative reaction does not exclude a syphilitic infection.

The malignant diseases do not give positive Wassermann reactions.

CAPE GIRARDEAU COUNTY MEDICAL SOCIETY

Cape Girardeau County Medical Society held its regular monthly meeting in the Commercial Club Rooms, Cape Girardeau, July 10, with nineteen regular members present and visitors, Dr. Charles Moore of Advance; Dr. E. J. Goodwin, secretary of the state association; Dr. W. P. Elmer of St. Louis, and Dr. Robert Vinyard of St. Louis.

On motion of the secretary the courtesies of the society were extended to the visitors.

The president introduced Dr. W. P. Elmer who read a paper on "Syphilis of the Cardio-Vascular System." The doctor also exhibited some interesting specimens outlined in his paper. Many good points were brought out which would enable the attending physicians to arrive at a correct diagnosis of cardiac conditions.

Next we had an interesting talk by the secretary of our state association, Dr. Goodwin. His subject was Organization and he showed how we were coming to the front as a result of county society activities. The bearing on the society of contract practice, life insurance examinations, medical defense, legislation, workmen's compensation laws, social insurance, quackery, and the numerous "isms" were touched on in an impressive manner. He also showed that we must have cooperation and coordination in order to have proper organization, and by organization results will be forthcoming.

E. H. WILSON, M.D., Secretary.

CLAY COUNTY MEDICAL SOCIETY

A very enthusiastic meeting was held in the Major Hotel in Liberty, the evening of June 26. Practically every part of the county was represented except Excelsior Springs. Here's hoping that the boys will do better in future.

Dr. C. H. Suddarth of Smithville, read the paper of the evening and the doctor started the most interesting discussion that we have heard. His subject was pneumonia. He reminded us that the more we theorized, the higher the mortality rate crept. He gave some startling statistics gleaned from the hospitals of a nearby city, with a steadily diminishing percentage of cures. And all this in a self-limited disease, where the natural tendency to recovery was strong. He was inclined to blame the treatment for the results. He advocated a sustaining, expectant treatment. He condemned calomel and coal tars. He had little use for strychnia and digitalis. The serum treatment, he had little need to employ. The hot sponge-bath he recommended strongly, with plenty of fresh air. He employed aconite, bryonia, and ipecac, early in his cases. He did not emphasize veratrum.

The doctor reported a case in detail, the patient a girl aged 11 years, and weighing 160 pounds. This patient received some one hundred baths, and at times she exhibited a temperature of 106, and a respiration of about 70. The left lung was the involved area. Convalescence occurred on the tenth day. Space forbids a more complete report of this extremely interesting case.

A full discussion followed. Dr. J. H. Rothwell said he would give a large dose of calomel about the first thing, and some coal tar derivatives the second. And he did not lose his cases either. The only difference he noted, was lysis instead of crisis, but the patients got well.

Dr. E. E. Peterson of Nashua, advocated mild doses of morphia as a reliever of distress and a cardio-respiratory stimulant. The discussion lasted till a very late hour and made this one of the best meetings of the year. We fail to see how physicians can afford to miss a single meeting.

J. J. GAINES, M.D., Secretary.

FRANKLIN COUNTY MEDICAL SOCIETY

A special meeting of the Franklin County Medical Society was held at Union, Mo., May 18. The following members were present: Drs. O. N. Schudde, president; John Isbell, W. P. Mattox, C. F. Briegleb, W. C. Miller, D. P. Dunn, W. S. Rutherford, A. L. McNay, O. L. Muench, E. A. Stierberger and H. A. May.

The special meeting was called for the purpose of acting on the application that had been received several months previously, and for looking into arrangements for betterment of the society.

Dr. Eugene Milton Lucke, Gray Summit, a member of the St. Louis Medical Society, who applied for membership by transfer card several months ago, was elected by the society to membership at this meeting.

A motion was made and carried that the society draw up resolutions against Senate Joint Resolution 120, introduced into Congress by Senator Works of California, and that the president and secretary of the society be the committee to draft such resolutions.

Dr. C. F. Briegleb gave the society a talk on the benefits of open society sessions or public meetings, and moved that the president and secretary of the society and Prof. Charles A. Cole, county commissioner of public schools, be authorized to arrange for a public meeting in connection with the society meeting to be held in Union Aug. 1, 1916.

This motion received a second and by vote of the society was carried.

H. A. MAY, M.D., Secretary.

GASCONADE-MARIES-OSAGE COUNTY MEDICAL SOCIETY

The Gasconade-Maries-Osage County Medical Society met in the Osage County Courthouse in Linn, Thursday, June 22, 1916, at 2 p. m. There were fifteen doctors present as follows: Drs. O. H. Brown, Carroll Smith and Cyrus E. Burford, of St. Louis; Fred Aufderheide, John D. Seba and Isaac G. Cook, of Gasconade County; S. E. Gaston, J. J. Radmacher, A. F. Westerling and W. R. Ferrell, of Maries County; C. T. Leach, S. E. Souder, James F. Jett, J. O. Cooper, H. F. Gove and J. F. Jones, of Osage County.

Drs. Fred B. Hall and Roland Hill of St. Louis, who were on the program, were unavoidably detained and did not attend the meeting.

There were a series of cases presented, among them were one case of glaucoma of three years standing; a knee injury of twenty-three years standing; a case of aortic aneurysm; two congenital harelip, a brother and sister aged respectively 20 and 14 years. These were to have been operated but the operations were postponed to a later date. The last clinic was a case of sympathetic palpitation of the heart. All these cases were fully discussed before the society and proper treatment recommended.

Dr. O. H. Brown delivered a lecture on the etiology and treatment of asthma.

Dr. Carroll Smith read a paper and presented skiagrams on the open method of treating fractures. He explained the difference in steel bone plates and bone-grafts and recommended auto bone-grafts as against bone-grafts from other persons or animals.

Dr. Cyrus E. Burford read a paper on hematuria. After the reading of the paper he presented several specimens of kidneys he had removed from patients and named the pathological condition that made their excision necessary.

A recess was taken until 8 p. m. and the doctors went to the hotels and enjoyed the hospitality of the Linn doctors in partaking of a sumptuous repast.

At 8 o'clock the doctors again assembled in the courthouse. The first number was the reading of Dr. Roland Hill's paper by Dr. Burford on the subject of "Abdominal Drainage."

The society then elected Dr. James F. Jett of Linn, Dr. A. F. Westerling of Freeburg, and Dr. Isaac G. Cook of Morrison to membership in the society.

The society decided that the next meeting should be held in Freeburg the latter part of July and that the

Freeburg physicians be requested to select a date and a proper meeting place.

The scientific program thus closed and immediately the public health meeting began.

Dr. Aufderheide introduced Dr. O. H. Brown who spoke of "The Prevalence of Tuberculosis: Its Early Recognition, Prevention and Cure." The lecture was well received by the audience and liberally applauded.

The next speaker was Dr. Carroll Smith, subject, "Ravages of Cancer." He said among other things that one person out of every eleven over forty years of age died of cancer. He said there was no known remedy for cancer except its early removal in the pre-cancerous stage.

The next speaker was Dr. Cyrus E. Burford, subject, "Social and Venereal Diseases." He handled his subject so well that every one in the audience was pleased with the discourse. He said that the trouble lies in a double standard of morals; that young men were very often indiscrete but society forgave them for their shortcomings, while a higher moral standard is expected of girls. We believe that the people greatly appreciated this discourse.

JOHN D. SEBA, M.D., Secretary.

POLK COUNTY MEDICAL SOCIETY

The Polk County Medical Society met at the Viles Hotel, Bolivar, at 11 a. m., June 13. The vice president, Dr. Stufflebam, called the meeting to order. Present: R. Lee Russell, A. J. Stufflebam, R. D. Dill, Humansville; R. C. Nevins, Flemington; C. N. Hahn, Dunnegan; C. H. Brown, John W. Coy, Fair Play; B. E. Taylor, A. P. Mitchell, J. F. Roberts, J. E. Loafman, W. G. Drake, Bolivar; Wallis Smith, Springfield, and T. D. Wrinkle, Pittsburg.

Dr. Wrinkle's application for membership was received and referred to the board of censors.

Dr. R. Lee Russell read an interesting paper on tuberculosis. The subject of tubercular prophylaxis in the community and county was discussed, and on motion Drs. Russell, Brown, Taylor, Nevins, and Mitchell were appointed a committee to draft resolutions on same.

The society adjourned for dinner and reconvened at 1.30 p. m.

Dr. Mitchell presented a case of Hodgkin's disease and Dr. Roberts presented a case of gonorrheal osteitis and exostosis of both heels with lameness due to the condition. Both cases were examined and discussed.

Dr. Wallis Smith of Springfield read an interesting paper on "Tuberculosis of the Fallopian Tubes" and Dr. A. J. Stufflebam described a case of gunshot wound of the arm with acute gangrene following.

Dr. C. H. Brown reported an interesting case of trichinosis or trichiniasis due to eating Hamburger sausage. The diagnosis was confirmed by microscopic examination.

Dr. Roberts reported a case of severe hematuria following or as a sequela of typhoid fever. These cases were well discussed by the members.

The special committee on tuberculosis reported and offered the following resolution, which was adopted by the society:

WHEREAS, Tuberculosis in our community and county seems prevalent to the extent of causing 10 per cent. of all fatalities, and

WHEREAS, Tuberculosis is a preventable disease and is transmitted by afflicted persons to others, therefore, be it

Resolved, That the Polk County Medical Society with a view of disseminating knowledge of this malady, we recommend that this society appoint a committee on tuberculosis and that the Society advise with our public school teachers on this subject and

secure their cooperation in a campaign of education. We heartily commend the state of Missouri on the work that is being done at Mount Vernon sanatorium and hope for an extension of the institution so that more patients may be accommodated.

R. LEE RUSSELL,
CHARLES H. BROWN,

For the Committee.

After the transaction of some miscellaneous business the society adjourned to meet at Fair Play on the second Tuesday in September, 1916.

J. F. ROBERTS, M.D., Secretary.

SCHUYLER COUNTY MEDICAL SOCIETY

The Schuyler County Medical Society met at Lancaster in regular session in the office of Doctors Potter and Potter, June 27. The meeting was called to order by Vice-President Dr. W. F. Justice. Members present: W. H. Zieber, Queen City; W. F. Justice, J. H. Keller, B. B. Potter, W. A. Potter, Lancaster; J. B. Bridges, Downing. The minutes of the last meeting were read and approved.

Dr. W. H. Zieber reported a case of pregnancy with rigid os, malposition, and artificial delivery of the child. This was a very interesting case and was extensively discussed by a number of the members.

Dr. J. B. Bridges read a paper on "Empyema." It was well received and brought a good discussion.

The next meeting will be held at Lancaster, Sept. 19, 1916. Papers will be read by Drs. W. A. Potter, J. H. Keller and A. J. Drake.

J. B. BRIDGES, M.D., Secretary.

THE TRUTH ABOUT MEDICINES

NEW AND NONOFFICIAL REMEDIES

Since publication of New and Nonofficial Remedies, 1916, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

STANDARD RADIUM SOLUTION FOR DRINKING (1 MICROGRAM RA).—Each bottle (60 Cc.) contains radium chloride equivalent to 1 microgram Ra, and 1.3 mg. of barium chloride. The solution contained in one bottle is taken after each meal. The Radium Chemical Co., Pittsburgh, Pa. (*Jour. A. M. A.*, July 1, 1916, p. 35).

RADIUM BROMIDE, SCHLESINGER RADIUM Co.—It complies with the standards of N.N.R. and is sold on the basis of its radium content. Schlesinger Radium Co., Denver, Colo.

RADIUM CARBONATE, SCHLESINGER RADIUM Co.—It complies with the standards of N.N.R. and is sold on the basis of its radium content. Schlesinger Radium Co., Denver, Colo.

RADIUM CHLORIDE, SCHLESINGER RADIUM Co.—It complies with the standards of N.N.R. and is sold on the basis of its radium content. Schlesinger Radium Co., Denver, Colo.

RADIUM SULPHATE, SCHLESINGER RADIUM Co.—It complies with the standards of N.N.R. and is sold on the basis of its radium content. Schlesinger Radium Co., Denver, Colo. (*Jour. A. M. A.*, July 8, 1916, p. 121).

VITALAIT STARTER.—A culture in vials of the *Bacillus bulgaricus* and the *Streptococcus acidi lactici* in symbiosis. It is intended for the home preparation of fermented milk. Sufficient to prepare from 1 to 3 quarts of fermented milk is sent on request of the physician to the patient twice a week. The Vitalait Laboratory, Inc., Newton Centre, Mass. (*Jour. A. M. A.*, July 15, 1916, p. 203).

PROPAGANDA FOR REFORM

AROMATIC SPIRITS OF AMMONIA.—This is an old fashioned complex mixture. Its reputation has little scientific basis. Its effects probably are psychic, in the main. Such effects might be expected from the irritation of the nasal mucosa by the ammonia and to the flavor and odor of the lemon, lavender and nutmeg oils. The physical effect is probably due to the alcohol though the ammonium carbonate and uncombined ammonia may have some restorative action by the irritation of the gastric mucosa or by their neutralization of nauseating acids in the stomach. When the effects of ammonium carbonate are desired, this is better given in aqueous solution. When the effects of alcohol are desired, whisky is to be preferred (*Jour. A. M. A.*, July 1, 1916, p. 65).

THE PHARMACOPOEIA REVISION.—As usual the Pharmacopoeia about to be issued will be antiquated when it comes out. Some of the drugs in it will have become more or less obsolete, while many new ones which have proved of value will not be there. Since all the publications of the A. M. A. are issued promptly and in excellent style, and are complete, correct and up to date, it is suggested that the U. S. P. should be taken over by the A. M. A., and be henceforth published by it. It may be extreme to say that the world would be almost as happy without a Pharmacopoeia, but at least we could get along very nicely with a Pharmacopoeia about one half the size of the present one. A good deal of the matter it contains is quite superfluous and its deletion would prove distinctly advantageous to (1) the book, (2) to the medical profession, (3) to the pharmaceutical profession and (4) last but not least, to the students of medicine and pharmacy (*Critic and Guide*, July, 1916, p. 239).

WINE OF CARDUI VERDICT.—Anent the verdict in the recent "Wine of Cardui trial" awarding one cent damages to the Chattanooga Medicine Company, a medical journal offers condolences to the American Medical Association, declares that the verdict is "a very decided victory for the 'patent medicine' association," and asks "is publicity the way to accomplish the true end?" The outcome of the case was a moral victory for the Association and publicity is the only rational means of attacking the nostrum evil, whether of the "patent medicine" or of the "ethical proprietary" variety. Until the public is given definite and specific facts no great strides will be made in preventing unscrupulous cupidity from preying on the sick and suffering. The faith of the public in patent medicines of all sorts continues because no small part of the medical profession is itself still under the blight of the "patent medicine" business—albeit the preparations in question are euphemistically spoken of as "ethical proprietaries" (*Jour. A. M. A.*, July 15, 1916, p. 206).

COCAIN SUBSTITUTES.—Treasury Decision 2194 places "alpha and beta eucaine or any of their salts or any synthetic substitute for them" under the provisions of the so-called Harrison Narcotic Law. To this ruling, the Farbwerke-Hoechst Company, the manufacturers of novocain, a synthetic substitute for cocain, took exception and, by agreement, a test case was argued before the United States District Court of New York. It is reported that the court took the case from the jury and ordered a verdict for the Farbwerke-Hoechst Company on technical grounds (*Jour. A. M. A.*, July 15, 1916, p. 208).

AROMATIC SPIRITS OF AMMONIA IN SHOCK.—Horatio C. Wood, Jr., explains that any stimulating effect which may be observed after the oral administration of aromatic spirits of ammonia is due either to a psychic effect or to its local irritant action on the gastric mucosa, just as the irritation by ammonium

carbonate, in the form of smelling salts, of the mucous membrane of the nose may reflexly excite the medulla (*Jour. A. M. A.*, July 15, 1916, p. 231).

PHENOL ANTIDOTES.—Various substances, fixed oils, glycerin, diluted sulphuric acid, the soluble sulphates of the alkalis and alkali earths, have been recommended as antidotes or prophylactics of phenol poisoning. M. I. Wilbert discusses the value, or lack of value, of the various reagents proposed as antidotes to phenol poisoning. He points out that glycerin will not prevent the production of gangrene or the absorption of phenol. Wilbert points out that the other substances mentioned have been found inefficient as detoxicants for phenol, and in many instances distinctly harmful. He further notes that, while the value of alcohol as an antidote for phenol poisoning has been scientifically disproved, yet even as late as 1915, the fallacy that ethyl alcohol is an antidote to phenol has been embodied in state laws designed to restrict the sale of phenol. Recent investigation, carried out in the Hygienic Laboratory, shows that in the presence of water neither alcohol nor glycerin has any detoxicating effect on phenol (*Jour. A. M. A.*, July 15, 1916, p. 233).

POISONING FROM LEAD PAINTS.—The reports of the British departmental committee, appointed to investigate the dangers of the use of lead compounds in the painting of buildings, shows the principal source of poisoning to be dust, produced during the mixing of dry white lead with oil and in the dry rubbing down process. While the first danger is done away with by the use of ready mixed paints, the committee proposes drastic legislation to remedy the second evil. The committee recommends the enactment of a law prohibiting the importation, sale or use of any paint material containing more than 5 per cent. of its drug weight of soluble lead compounds (*Jour. A. M. A.*, July 15, 1916, p. 234).

POISONOUS PROPERTIES OF THE GARDEN DAFFODIL.—The bulbs of the garden daffodil (known botanically as *Narcissus pseudonarcissus*) contain an alkaloid (or alkaloids) whose physiologic action differs according to the stage of growth of the plant. The alkaloid extracted from the flowering bulb produces dryness of the mouth, checks cutaneous secretions dilates the pupil, quickens the pulse, and slows and weakens the heart contractions. The alkaloid extracted from the bulbs after flowering produces copious salivation, increases cutaneous secretion, contracts the pupil, and produces slight relaxation of the pulse, slight faintness and nausea. Such widely divergent physiologic effects indicate that there must be considerable differences in the nature of the alkaloids at the different times mentioned. Since the daffodil is so common in gardens it might be well to consider it in poisonings of mysterious origin (*Jour. A. M. A.*, July 22, 1916, p. 290).

HEXAMETHYLENAMIN IN ANTERIOR POLIOMYELITIS.—It has been shown that hexamethylenamin has no germicidal activities, except in an acid medium. Therefore, it is of special value only in infections of the pelvis of the kidney, ureters, bladder and urethra when the urine is acid. It cannot be expected to exert germicidal activity in the spinal fluid, which is alkaline and hence is of no value in the treatment of anterior poliomyelitis (*Jour. A. M. A.*, July 22, 1916, p. 309).

QUALITY OF SODIUM SULPHITE.—Investigation has shown that while the crystallized sodium sulphite is unreliable, the dried or desiccated form of sodium sulphite is generally of good quality and relatively permanent. A. H. Clark reports experiments showing that specimens of desiccated sodium sulphite keep for years with little deterioration (*Druggist's Circular*, July, 1916, p. 396).

BOOK REVIEWS

THE PRACTICAL MEDICINE SERIES. Volume I, General Medicine. Edited by Frank Billings, M.S., M.D., and J. H. Salisbury, A.M., M.D. Year Book Publishing Co., Chicago.

A clear, concise review of the field of general medicine for the previous year. These series are very helpful to the busy doctor and should be included in his library.
J. C. M.

THE PRACTICAL MEDICINE SERIES. Volume III, 1915. Eye, Ear, Nose and Throat. Edited by Casey A. Wood, C.M., M.D., A. H. Andrews, M.D., and W. L. Ballenger, M.D. Year Book Publishing Co., Chicago.

An excellent, clear, concise treatise of the etiology, pathology and treatment of diseases of the eye, ear, nose and throat. A book of special value to the busy specialist.
T. O. K.

A MANUAL OF EMBRYOLOGY. By A. Melville Paterson, M.D., F.R.C.S. Oxford University Press, American Branch, 35 West Thirty-Second Street, New York. Price \$2.75.

This is a conveniently sized volume and true to the English idea of a manual. It is well suited to both medical students and students of general vertebrate embryology, organology and comparative anatomy. The book is well written and the heavy faced type facilitates fixing in mind the subjects treated.

C. H. S.

DEVELOPMENT AND ANATOMY OF THE NASAL ACCESSORY SINUSES IN MAN. By Warren B. Davis, Assistant Demonstrator of Anatomy in the Daniel Baugh Institute of Anatomy. Philadelphia and London: W. B. Saunders Co.

This is a very ambitious treatise on the anatomy of these parts, commencing with the fetus and the variations up to adult life. It is a work for the anatomist and the specialist in nose diseases. It has a wealth of excellent illustrations. It should be a very useful work for the specialist.
W. H. L.

INFANT HEALTH. By J. S. C. MacMillan, M.D., Oxford University Press, American Branch, 35 West Thirty-Second Street, New York. Price 75 cents.

This is an excellent manual for district visitors, nurses and the more intelligent mothers. It is simple and comprehensive, yet technical enough for their usual needs. The author displays a well developed sense of humor and a great sympathy with an understanding of both mothers and nurses as well as a broad experience in the work. It should prove a helpful guide for mothers and nurses.
E. P. M.

COLLECTED STUDIES FROM THE BUREAU OF LABORATORIES, Foot of East 16th Street, City of New York. Dr. William H. Park, Director. Volume VIII, 1914-1915.

The volume contains sixteen short articles, the greater part of which have already appeared in print. They are classified according to subjects, most of them as might be expected, on the various problems of bacterial diseases. The essays abound in practical points of value to the laboratory worker, the clinician and the sanitarian. Such articles as "The Destructive Effects of Light and Drying and Other Living-Room Conditions Upon Diphtheria Bacilli, Streptococci and Staphylococci" must be attractive to every one who has any interest in medical science. The practitioner of medicine will find something of value to himself and his patients in almost all of the articles in the collection.
R. E. S.

PRACTICAL MEDICAL SERIES. Obstetrics. Edited by Joseph B. DeLee, A.M., M.D. The Year Book Publishers, 320 South LaSalle Street, Chicago.

DeLee reviews the literature on obstetrics for 1914 and 1915. Recent studies of various workers are given in some detail with the author's own experience and opinion more concisely expressed. Twilight sleep is considered by those favorable and unfavorable to it and on the whole does not seem to be gaining in popularity as considered in these books. Nitrous oxide and oxygen seems to be the preferred analgesic by several of the writers. It is said to be almost devoid of danger and to give a much more desirable state of painless labor. Recent writers on the Abderhalden test seem to be about equally divided as to its reliability. The toxemias of pregnancy, especially eclampsia, are given much consideration with increasing interest in the theory of placental infarction with degeneration as a cause. These books give us a most valuable exposition on the recent studies of the present problems of pregnancy and the puerperium.

E. P. M.

DIARRHEAL, INFLAMMATORY, OBSTRUCTIVE AND PARASITIC DISEASES OF THE GASTRO-INTESTINAL TRACT. By Samuel G. Gant, M.D., LL.D., Professor of Diseases of the Colon, Sigmoid, Flexure, Rectum, and Anus, at the New York Post-Graduate Medical School and Hospital. Octavo of 604 pages, 181 illustrations. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, \$6 net; half morocco, \$7.50 net.

This book is an extremely descriptive and well arranged compilation of the different types of diarrhea. It details those due to the primary intestinal lesions, and particularly emphasizes the varieties that result reflexly from some extraneous disorder or general disease. The differential diagnosis of these various types of diarrhea is freely discussed as well as their relation to mechanical treatment and operative procedure. The book is of particular value in relation to treatment and contains and discusses the merits of many useful and suggestive methods. It forms an excellent reference book.

L. S. M.

ANNALS OF SURGERY, July, 1916. This number contains 115 pages of reading matter. The following topics are discussed:

Branchiogenic Carcinoma, by Frank Warner, M.D., Columbus, Ohio; The Therapeutics of Chronic Non-Tuberculous Suppurative Bronchiectasis, by Howard Lilienthal, M.D., New York; Handling of Children with Tuberculosis of the Spine While They Are Under the Influence of an Anesthetic, by Walter G. Elmer, M.D., Philadelphia; The Element of Error in Abdominal Diagnosis, by Harold L. Foss, M.D., Danville, Ill.; Surgery of the Gall-Bladder, by Clifford U. Collins, M.D., and George H. Weber, M.D., Peoria, Ill.; Cysts of the Urachus, by John W. Means, M.D., Columbus, Ohio; A Transplantable Chondro-Osteosarcoma in a Dog, by John E. McWhorter and Frederick Prime, Jr., New York; A Traction Bandage for Reduction of Fracture of the Leg, by Howard D. Collins, M.D., New York; The Sliding Graft and the Kangaroo Suture in Fresh Fractures: Albee Technic, by Walter Lathrop, M.D., Hazelton, Pa.; Fractures of the Femur, by William Lawrence Estes, M.D., South Bethlehem, Pa.

A MANUAL OF BACTERIOLOGY. Fifth edition. By R. Tanner Hewlett, M.D., F. R. C. P., D. P. H. (Lond.) Professor of Bacteriology in the University of London, Director of Bacteriological Department, King's College, London; Director of Pathology, Seamen's Hospital, Greenwich; Lecturer on Bacteriology, London School of Tropical Medicine. C. V. Mosby Publishing Co., St. Louis, Mo.

The fifth edition of this work, a book of nearly seven hundred pages, is an admirable text for the

student and the laboratory worker, both as a manual and as a reference book. Much of the work is technical and thorough for a single volume.

The section devoted to the different bacteria, toxins, immunity, cultural characteristics and staining are simply and well presented, making an excellent guide for those who are engaged in other specialities.

It is written in clear, concise English, a feature too often overlooked, thus being much more comprehensive than the average one volume text.

The cuts are mostly from photographs, picturing the things as they are seen rather than diagrammatic.

D. O. S.

THE PRACTITIONER'S MEDICAL DICTIONARY. Containing all the words and phrases generally used in medicine and the allied sciences, with their proper pronunciation, derivation, and definition. By George M. Gould, A.M., M.D., Author of "An Illustrated Dictionary of Medicine, Biology, and Allied Sciences." "The Student's Medical Dictionary," "Pocket Medical Dictionary," etc. Third edition, revised and enlarged. By R. J. E. Scott, M.A., B.C.L., M.D., Fellow of the New York Academy of Medicine. Editor of Hughes' "Practice of Medicine," Gould and Pyle's "Cyclopedia of Medicine and Surgery," etc. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street, 1916. Price \$2.75.

In this edition of Gould's well-known dictionary the publishers have given us a volume that is the acme of convenience in handling, ready reference and at the same time comprehensive in its scope. It is entirely reset from new type and contains 20,000 new words in a total of 70,900 current words and terms. An attractive feature is the phonetic pronunciation. The definitions are concise and clear and all words of allied sciences that seemed necessary are included. Illustrations are almost entirely eliminated, and this together with the use of thin, tough paper and a flexible cover makes a volume of 1,000 pages light in weight and readily handled.

A TEXT-BOOK OF MILITARY HYGIENE AND SANITATION. By Frank R. Keefer, A.M., M.D., Lieutenant-Colonel, Medical Corps, U. S. Army; Prof. of Military Hygiene, U. S. Military Academy, West Point. Philadelphia and London: W. B. Saunders Company. \$1.50.

As a text-book for military men this book is quite adequate. It is, however, too elementary to interest the general medical profession. Even for the military student there is too frequent repetition of simple detail.

The author gives in considerable detail the hygienic and sanitary methods employed in the United States Army. In some instances he compares their efficiency with the methods of foreign armies, but in view of the fact that the book is designated as a text-book, this comparison is incomplete.

The chapters on Equipment, Water Supply, and Foods are exceptionally concise and practical.

The omission of any reference to defective teeth is very noticeable, as the dental corps is now recognized as a very important adjunct to an army.

The plan of sanitary aid stations and evacuation of wounded from the battlefield will be changed somewhat by the development of motor ambulance corps.

W. J. F.

DISEASES OF THE DIGESTIVE TRACT AND THEIR TREATMENT. By A. Everett Austin, A.M., M.D., of Boston. (Tufts College). Cloth, 8 vo., pp. 552, 85 illustrations of which 10 are in color. St. Louis, 1916. C. V. Mosby Company. Price \$5.50.

It augurs ill for a book when the first sentence of the preface contains an incorrect reference. Doctor Austin begins his preface with this sentence: "Of the making of many books there is no end," was the dic-

tum of Milton, and it is true," etc. If Doctor Austin will get a copy of the Bible and turn to Eccl. xii: 12, he will find something of interest. The next point that struck the reviewer was that the Roentgen-ray photographs have in many instances been reversed, so that with the cardia of the stomach on the right and the pylorus on the right it is difficult to "think them out." Another point: the author speaks of a "neurosis" of the celiac plexus (page 82). Does he mean neuritis or neuralgia? He speaks also of "rectoscopic" examination. "Rectum" is of Latin origin and "skopein" is Greek. Why not use the correct word, "proctoscopic"?

The author pays little attention to pathological anatomy and pathogenesis. His interest lies apparently in suggesting methods of diagnosis and treatment. In general the standpoint is that of a practitioner and the book therefore furnishes many stimulating suggestions on the treatment of gastric and intestinal disorders.

G. H. H.

APPLETON'S MEDICAL DIRECTORY. Edited by Smoth Ely Jelliffe, A.M., M.D., Ph.D., Adjunct Professor of Diseases of the Mind and Nervous System, New York Post-Graduate Hospital and Medical School. Assisted by Caroline Wormeley Latimer, A.M., M.D., Formerly Instructor in Biology, Women's College of Baltimore. And a staff of special contributing editors. New York and London: D. Appleton & Co.

Encompassed within a thousand pages Jelliffe and Latimer, with special contributing editors, have produced a lexicon of medical terms that gives adequate definition of the words and in many instances cyclopedic information. In addition to the definition of words there are chapters on Analyses of Body Fluids; Dietary; Bottle-Fed Babies; Death Certificate and International List of Causes of Death; List of Undesirable Terms; Statement of Occupation and Other Important Data; Standard Certificate of Birth; Reciprocity; Essential Features of State Laws and Conditions Surrounding Medical Licensure; Reciprocity Table; The More Common Poisons, Their Symptoms, Antodotes, and Treatment; Abbreviations and Symbols; Tables of Weights and Measures; Suggestions to Medical Authors.

The book is beautifully bound in full leather with red edges for the dictionary portion and yellow edges for the appendix, thus facilitating reference to the contents.

A HANDBOOK OF INFANT FEEDING. By Lawrence T. Royster, M.D. C. V. Mosby Company, St. Louis, 1916.

The average practitioner gets stage fright when he contemplates the difficulty of infant feeding and milk formulizing. Dr. Royster has put into this book the outlines of the subject, but sufficient if one will master it to give a good working knowledge. For instance, if one wishes to determine how much cream, skimmed milk or sugar he needs to take in order to make a twenty-four-hour quantity of a certain percentage, he has simply to remember

$$\frac{\text{24-hour quantity of the mixture} \times \text{percentage desired}}{\text{Divided by the percentage used}}$$

and he will get the amount of each ingredient needed, thus: 40 oz. a day \times 2 per cent. fat divided by 16 per cent. cream, equals 5 oz. cream—which is the amount of 16 per cent. needed to add to a 40-oz. mixture in order to get 2 per cent. fat. The same method and formula can be used to ascertain the protein and sugar.

It is often advisable to determine what percentage of the different ingredients the child has been getting in a formula. This can be determined thus:

$$\frac{\text{Percentage used} \times \text{the number of oz. used}}{\text{Divided by 24-hour quantity of the mixture.}}$$

gives the percentage of any ingredient desired.

A short chapter is devoted to the subject of calories. There are sixteen chapters which take up many of the important questions of early life. The book is well worth possession by any physician who has the care of infants. This is a book for physicians only.

F. C. N.

THE INTERVERTEBRAL FORAMINA IN MAN. By Harold Swanberg, Member of American Association for the Advancement of Science. From the Anatomical Laboratory, Chicago College of Medicine and Surgery. Chicago Scientific Publishing Co., Chicago, Ill. \$1.75.

The book appears in a neat style; the arrangement is such, with large bold headings, that one can quickly analyze the material. Possibly an excessive amount of space is consumed before the text is reached on Page 23, the entire book containing 95 pages. Protocol or dissection studies do not occupy much of the space. Conclusions occupy the bulk of the work. There appears a number of tables giving various accurate measurements. Plate 3, on Page 31, contains a description of the cut which is probably inaccurate. "Two adjacent cervical vertebrae" should probably have read "lumbar" instead of "cervical."

Section 4 contains a statement relative to the foramina being completely surrounded by bone which does not agree entirely with another statement in same section.

The work has evidence of much labor and covers a new, narrow field. Considering the importance of the spinal nerves and their ganglia contained in intervertebral foramina, more attention might be given the bony conformations surrounding these neural elements.

A. L. S.

PULMONARY TUBERCULOSIS. By Maurice Fishberg, M.D., Clinical Professor of Tuberculosis, University and Bellevue Hospital Medical College; Attending Physician, Montefiore Home and Hospital for Chronic Diseases, New York. Octavo, 639 pages, with 91 engravings and 18 plates. Cloth, \$5 net. Lea & Febiger, Publishers, Philadelphia and New York, 1916.

A careful study and analysis of this work leads one to confess that Fishberg has brought out what must be considered the most valuable monograph on this subject. While it is apparent that Fishberg has based his views largely on his own experience, he brings a bewildering amount of references to substantiate his statements. The most important lessons to be learned from the book are that patients suffering from tuberculosis are not doomed—that it is unnecessary in the majority of cases to remove them from their own community—and that sanatoriums are not the last word in the therapeutics of this disease.

Fishberg makes a strong plea for the abolition of the extreme measures sometimes taken by authorities in attempting to prevent infection of adults. His statistics are based on numerous reports of tuberculosis workers and are conclusive. The chapter on Tuberculin is especially good. Here the author gives the other side of the "Tuberculin Question"—the negative side. He concludes that tuberculin is good in those early cases "when it is not needed, and in the serious cases when most needed it fails." The chapters on Physical Diagnosis and Signs of Pneumothorax are also very good.

The book is highly endorsed and should find a place in the library of every progressive physician.

MEDICAL ELECTRICITY AND ROENTGEN RAYS AND RADIUM. By Sinclair Tousey, A.M., M.D., Consulting Surgeon to St. Bartholomew's Clinic, New York City. Second edition, thoroughly revised and enlarged. Octavo of 1219 pages, with 798 practical illustrations, 16 in colors. Philadelphia and London: W. B. Saunders Company. Cloth, \$7.50 net; half morocco, \$9 net.

This encyclopedia of medical electricity has established itself as the ready reference book for the busy practitioner and the struggling beginner. There is probably much electrical apparatus installed in physicians' offices that is rusting for lack of intelligent application. It is not due to the fact that electricity in medicine is of little value but because the physician does not know how to apply his electrical modalities. Tousey's book should reawaken interest and take the dust off of much unused apparatus. His descriptions of electrical methods are wonderfully complete. We have thought of odd random subjects to test this encyclopedia and have become impressed with its completeness, with the possible exception of the Roentgen chapters.

Especially are the pages on Electrodiagnosis full of clear descriptions and illustrations. Again we would call attention to the chapters on Ionic Medication, High Frequency Currents, and Phototherapy. The chapters on the Physiological Effects of Electricity and Electropathology are extremely comprehensive. The latter carries much from Jellinek's recent monograph. This subject has become of great medico-legal interest since the establishment of electric circuits in towns has become almost universal. E. H. S.

NERVOUS AND MENTAL DISEASES. By Archibald Church, M.D., Professor of Nervous and Mental Diseases in Northwestern University Medical School, Chicago; and Frederick Peterson, M.D., formerly Professor of Psychiatry, Columbia University. Eighth edition, revised. Octavo volume of 940 pages, with 350 illustrations. Philadelphia and London: W. B. Saunders Company. Cloth, \$5 net; half morocco, \$6.50 net.

This important text-book continues to maintain its high standard. Each author is entirely responsible for his portion, Dr. Church for neurology and Dr. Peterson for psychiatry. It is truly astonishing how much valuable information has been condensed into this one volume. Accuracy is not in the least sacrificed in order to present the subject with the characteristic clearness and brevity of the two authors. There have been a number of changes to meet the modern additions to those two important specialties. Attention is called to the numerous, valuable and complete tables by Dr. Church and particular attention directed to the tables on laryngeal paralysis, acute meningitis, aphasia, cord lesions, cerebral hemorrhage, and thrombosis. In the mental divisions we find the several classifications. The newer conceptions of psychiatry have been incorporated in the general text, where previously it was given separate consideration.

This work should continue to remain the first choice among students in the medical schools of this country. The contents are equally valuable for the general practitioner and the medical student. A. L. S.

MEDICAL LECTURES AND APHORISMS. By Samuel Gee, M.D. With Recollections by J. Wickham Legg, with one portrait. VIII. 408 pages. 8vo. London, 1915. Oxford University Press, American Branch, 35 West Thirty-Second Street, New York. Fourth edition. Price, \$2.

On the cover the name Samuel Jones Gee is used, on the back it is S. J. Gee, while within the volume we have plain Samuel Gee.

Such a compilation of essays on clinical and other subjects would be greatly enhanced in value if the date of writing were given in connection with each paragraph instead of omitting this in a number of places. The science of medicine changes so rapidly and constantly that posterity is entitled to have an accurate record of the trend of thought of each period. Twenty or thirty years are a material factor in the scientific and historical worth of a statement. The "recollections" fail to give definite biographical data. They treat, for the most part, of Dr. Gee's literary tastes and tendencies. All of the essays are written with care, the language being well chosen. They show that the author was undoubtedly a scholar, in addition to being a clinician of the highest type, although some of his purely clinical points do not conform to our modern conception of their nature. Every chapter, however, teems with ideas which will ever contribute to raise the ideals of those who read this little book. Especially commendable are "Sects in Medicine," "The Conflict of Medicine with Smallpox," and "Abraham Cowley, M.D. and Philosophical College."

R. E. S.

THE CANCER PROBLEM, by Wm. Seaman Bainbridge, A.M., Sc.D., M.D. The Macmillan Company, New York.

It is with great pleasure that we recommend Dr. Bainbridge's book, "The Cancer Problem." He considers the subject from every angle. It is written in a clear, concise manner, especially the facts educed for the dissemination of cancer knowledge; these should be carefully noted not only by the public but as well by the physician. The arrangement of the subject matter is very pleasing and carefully prepared as embodied in the summaries. In view of the fact that 90 per cent. of all cases of cancer prove fatal and that 75,000 persons died from the disease in the United States last year the book and subject are very timely.

His conclusions follow:

1. That the hereditary and congenital acquirement of cancer are subjects which require much more study and in the light of present knowledge, they offer no special element of alarm.
2. That the contagiousness of infectiousness of cancer is far from proved.
3. That the same precautionary measures should be used in the care of cancer as of any ulcer or open wound.
4. That the danger of accidental acquirement of cancer is far less than that from typhoid fever, syphilis or tuberculosis.
5. That in the care of cancer patients there is much less danger to the attendant of acquiring cancer than there is of septic infection or blood poisoning from pus organisms.
6. That the communication of cancer from man to man is rare if it really occurs at all.
7. That in cancer as in all diseases attention to diet, exercise and proper hygienic surroundings are of the utmost importance.
8. That cancer is local in its beginning.
9. That in incipency it may be removed so perfectly that the chances are it may never return.
10. That when advanced beyond cure, suffering may be palliated and life prolonged by surgical means.
11. There may be predisposing causes, such as general lowered nutrition, chronic irritation and inflammation, repeated acute trauma, cicatricial tissue, such as lupus and other scars and burns, benign tumors, warts, moles, nevi, etc.
12. That certain occupations are conducive to the production of cancer.

R. M. F.

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EDITOR

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 } M. A. BLISS, M.D.

ORIGINAL ARTICLES

ATONY, THE BASIC FACTOR OF MOST ALIMENTARY PATHOLOGY*

JOHN M. BELL, M.D.
ST. JOSEPH, MO.

There are two factors underlying all functions of the alimentary canal—secretion and motion. Each section of the digestive tube, in turn, with its particular secretion, performs its task and passes its contents onward for the next step; the body appropriates what it needs and the balance is passed out. With these functions of secretion and motion acting normally, we have no more thought of the stomach and bowels than of the spleen and lungs. When either function is perverted our attention is called to the abdomen with aches or pains, or else some part remote from the digestive canal notifies us of disturbance. All diseases of the gastrointestinal tract may then be divided into (1) those of perverted secretion and (2) those of perverted motility. The secretory disturbances are comparatively few in number. They may be counted with the fingers—excessive salivation, gastric hypersecretion, the lack of gastric juice in terminal chronic gastritis and in cancer. Even these secretory disturbances do not always exist as primary entities. They are frequently the result of a lack of motility elsewhere, or else are due to a perverted nervous system, as in neurotic hyperacidity and in colica mucosa. The majority of digestive disturbances are those due to perverted motility, flabby muscles. They are the mechanical diseases, and while hypermotility is at times encountered, by far the greater number are due to the other extreme, hypomotility or atony—the inability, more or less complete, of a hollow viscus to empty itself after its chemical functions have been performed. It is remarkable how slight the symptomatology, and how little the body suffers with

imperfect digestion, providing motility is good, and food contents are passed along promptly from one section to the other, even though digestion may be imperfect. We get a clearer understanding of the motor function of digestion if we remember the entire alimentary canal is a hollow muscle. Gravity plays no part in the onward progress of foodstuffs. The mechanics of digestion depends altogether on muscular tonicity. A man can drink water standing on his head just as well as standing erect. The fluid does not fall or drop into the stomach; it is grasped by the circular muscles of the esophagus, which contract in turn, until the fluid reaches the stomach. After food leaves the mouth, it is under the influence of normal peristaltic muscular control until evacuated.

Regarding the digestive canal as a hollow muscle, we get an idea of the immense importance of normal muscular tonicity in maintaining the correlation of chemical changes, which follow one after the other, if normal digestion, assimilation and defecation are to be maintained. There must not be undue retention at any point, else decomposition processes begin, or mucous infiltration of the food mass follows, which may render the next digestive step difficult or impossible. Stomach contents even after gastric juice has performed its task may undergo decomposition if retained an undue period.

Imagine, if you can, any viscus falling short in mechanical activity and you have an array of symptoms often perplexing and at times alarming. Let the musculature of the stomach be faulty, food remains an undue period, creating a sense of weight and uneasiness. Such a patient comes to you for "acute indigestion"; when atonicity is more pronounced a bubble of gas, created by fermentation or swallowed, remains. There is extreme misery, pressure on the diaphragm, most acute pain. The physician is called immediately; such a case looks desperate. It may be due entirely to atony. Many people swallow air while eating; they are distressed for a minute, a belch brings it up and all is well. But the person who cannot relieve

* Read at the meeting of the State Medical Association, Excelsior Springs, May 8-10, 1916.

himself in this manner suffers from chronic dyspepsia and is given HCl, nux, pepsin, etc. Medicines, however, cannot put on muscle. Pronounced cases of atony swallow air constantly, are unable to expel it and live a life of torment. They are called chronic dyspeptics. Many of these cases digest well enough, but they are short on muscular tone. Next to this class there is an army of people who possess a large debilitated cecum and ascending colon. This is the weakest part of the intestinal tract, and is often the first point where atony shows itself by delay in lifting its contents into the transverse colon.

This paper does not deal with ptosis, Lane's kinks, adhesions or Jackson's membranes, but mere atony. I am speaking of the intestinal tract, normal except for atony. These cases of atony of the cecum have occasional pain suggestive of appendicitis, sometimes the appendix is removed, but the symptoms return as before. The harmful influence of atony in the colon at large needs no comment. The \$5,000,000 the American people spend every year for cathartics testifies to the universality of atony, for nine of every ten cases of constipation are atonic.

Atony is the basic factor in that long series of systemic disturbances dependent on gastrointestinal autointoxication, headache, dizziness, furred tongue, mental lassitude, joint pains, with lowering of mental and physical efficiency.

Beyond these systemic disturbances there are many distinct pathologic entities of the alimentary appendages created by atony. In the wake of an atonic stomach follows hyperchlorhydria, mucous gastritis, ultimately the denuding of the mucosa at the pyloric antrum—ulcer. Atony of the duodenum is followed by infection of the gallducts, with concomitant disease of the gallbladder and pancreas. Atony of the cecum is the most potent factor in appendicitis. Food decomposition at this point permits the appendix to be flooded and bathed with the pathogenic bacteria of the cecum. The bacteria of the diseased appendix are the bacteria of the cecum. The large number of cases of atony of the colon, which come to me with the scar of appendectomy, fully convinces me of the relation of these facts. Cancer of the sigmoid is practically always preceded by atonic constipation. The long-continued and frequent impaction at this point favors denuding; ulcer of the sigmoid is the next step and malignancy the next. Malignancy of any mucous surface in the alimentary canal is the necessary terminus of retention, impaction, bacterial invasion, ulceration. The last step in the phenomena is made possible by two concomitant factors due to atony and retention, namely, bacterial invasion into and beyond the mucosa and the vitiated nature of the portal circulation, contaminated by soluble toxins of nitrogenous origin. Under

such conditions an infiltration and stasis of the lymphatic vessels and spaces is so complete that when denuding has taken place, healing is impossible from the nature of the blood supply and the lack of lymphatic drainage. If healing be long retarded, malignant proliferation is the next step. Atony is the first step in the production of adhesions within the abdomen. Retention lowers the vitality of the mucosa, favors the increase of the colon bacillus and paves the way for invasion into deeper structures. My experience has been that adhesions and atony go hand in hand; in those cases where adhesions exist there is always a flabby peristaltic muscle.

I reiterate, atony is the bugbear of the gastroenterologist. It complicates or disguises almost every form of alimentary disease. It is difficult to make the patient appreciate the condition sufficiently to do his or her part toward restoration. It is widely prevalent and is not confined to the enteroptotic. It is found in farmers who have retired and who follow an indolent life; in athletes who have gone into the office; in country boys who take up inside work; in women who live a literary life without its physical cares. I have seen it in blacksmiths after years of leisure. It is found in children at and before puberty—inherited. Man was not created to live within four walls; he should live in a tent. Atony is one of the first and generally overlooked stigmata of physical degeneracy. We say man is as old as his arteries. I would gauge age by peristalsis, for atony precedes arteriosclerosis.

It occurs so frequently in city practice that in many cases, when the result of atonicity are temporarily disposed of, there are no symptoms of disease left.

Therein dwells the difficulty. After a week of appropriate diet, physical exercise and abdominal massage the patient feels well again, if the case is not too pronounced, and it is hard to make him realize the necessity of persistent effort to restore the tone completely, so that he maintains himself without treatment. Medicine is of minor importance; it cannot put tone into alimentary muscles, nor can it increase intra-abdominal pressure.

Tonic, robust peristaltic wave makes the alimentary canal the gateway of nutrition; flabby, atonic peristalsis makes the alimentary canal the gateway of poison.

Atony is the first step toward hardening of the arteries: a diseased liver, a diseased thyroid, diseased suprarenal capsules, an unstable nervous system, a decrepit body. Well does Socrates say, "men do not die; they kill themselves." Men dig their graves with their teeth. The remedy consists in rebuilding the alimentary canal and rearranging the daily life.

It means a well-balanced diet and physical exercise in the open air. It means maintaining harmony between diet and exercise.

The prevalence of atony accents the biblical injunction, "man shall live by the sweat of his brow"; therefore he who does not sweat, merely exists.

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DISCUSSION

DR. OLNEY A. AMBROSE, St. Louis: The real atony has no genuine pathology, unless you can say that insufficiency of muscular tone is a pathology; it is an interference with a function. The stomach has two functions; one is motion, and the other is secretion. We must stop dosing patients for "indigestion" and "dyspepsia" and look and inquire a little further into the case. We must diet these patients, put them on the proper muscular tonics, of which strychnin is ideal unless contraindicated, give them the right sort of hygiene outdoors, and a certain fixed law to live by for a while. These patients will not stand tampering with; you cannot give them hydrochloric acid for a while to see how that acts, and then give them alkalies for a while to see how they act, as they are contraindicated.

There are two conditions which cause apparent retention in the stomach. One is functional atony, the other is organic obstruction. The fluoroscope quickly differentiates them. They are not so easy to differentiate clinically; but this is one very important point that you can depend on—the individual with atony is apparently acutely ill and not chronically so, while the individual with obstruction producing retention is chronically ill in the majority of cases.

So I would make a plea that we go a little more carefully into our diagnosis of "dyspepsias" and "indigestions." The great majority are atony.

"STOMACH TROUBLES"—THEIR SIGNIFICANCE *

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No apology is necessary when an obscure abdominal lesion is designated as a "stomach trouble." It is an appellation that will always remain popular so long as no definite diagnosis of the existing lesion has been reached.

A patient is sent by the general practitioner to the specialist bearing a note which reads: Introducing Mr. X, who has an obscure "stomach trouble." What motive was there on the part of the general practitioner to use the expression "stomach trouble"?

There could be, in reality, but one motive, namely: that the symptoms as presented by the patient were being given expression by the stomach, and that they were principally pain and vomiting.

When we consider such a collective diagnosis as "stomach trouble," we cannot fail to be impressed with its far-reaching meaning. To crystallize such a meaning into a more intellectual concept not only necessitates a correct interpretation of the clinical symptoms of the abdominal organ at fault and responsible for

the gastric disturbance, but it also requires a proper differential diagnosis from a lesion that actually may exist in the stomach.

It is not my object to dwell on the diseases of the stomach; that is not the purpose of this paper. My aim is to bring before you the various diseases of the abdominal organs which are usually met with, whose early symptoms are made known by a gastric disturbance. Out of this syndrome I desire to choose one symptom, because of its prominence and because of the great importance attached to it.

The symptom to which I have reference and about which my argument will be woven is

VOMITING

Vomiting is usually the act which attracts attention directly to the stomach, and is in a great measure responsible for the appellation "stomach trouble." Be its occurrence early or late, mild or violent, it invariably lends a serious aspect to the clinical picture, and if persistent engenders an apprehension that it is well not to ignore.

Before proceeding, let us consider the nervous mechanism of vomiting. That it is a complex reflex act, produced in consequence of the stimulation of sensory nerves, there is no doubt. The nerve which concerns us most with the character of vomiting we are considering is the vagus. The sensory nerves of the stomach are chiefly branches of the vagi, but they belong partly also to the sympathetic system. The association of the vagi with the sympathetic system, a system linked to the cerebrospinal system by numerous communications which extensively supplies the abdominal viscera, explains the act of vomiting. An impulse resulting from the irritation of any visceral nerve will find its way through the sensory fibers of the vagus to the vomiting center in the medulla. The efferent parts of this reflex will be found in the motor fibers of the vagus, the phrenic and spinal nerves innervating the muscles concerned in vomiting, namely, the diaphragm, the abdominal wall and the stomach. It therefore becomes obvious that a lesion of any abdominal organ can, in a reflex manner, cause vomiting.

Prominent as this symptom usually is, let us ask this question: Can any deduction of diagnostic value, in an abdominal lesion, be made from vomiting? Only this can be inferred: That there is a visceral irritation somewhere; of course, assuming that no hysterical element is the causative factor, or that the case is not one of gastric crises of tabes.

In the highly sensitive patient, a mild peritoneal irritation may cause a violent and prolonged paroxysm of vomiting; while in a patient of a phlegmatic temperament, the peritoneal irritation may be severe, yet the vomiting be of a mild character.

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Now, let us ask this question: What clinical evidence can be gleaned from the vomit as a diagnostic sign in an abdominal lesion?

Nothing of any certainty can be attached to it. An inference, however, strongly suggestive of the possible lesion, can be made. For instance, the vomiting of particles of food eight to ten hours after ingestion, either unchanged or but little changed, indicates that secretion of gastric juice is deficient, either in quantity or quality. Such a condition is frequently found in gastric dilatation, and if the vomited matter shows a constant absence of bile and is persistent, a pyloric stenosis may be looked for.

The food in vomiting from cancer of the cardiac extremity of the stomach is usually comparatively little changed, whereas in cancer of the pylorus or in duodenal ulceration the food is much more digested, as it remains much longer in the stomach.

The admixture of blood with vomited matter, or even the vomiting of blood alone, is suggestive of an ulcer, benign or malignant, somewhere in the stomach or duodenum. It is also a symptom of cirrhosis of the liver.

Large quantities of a clear, watery fluid may be symptomatic of ulcer or cancer in the stomach or pylorus.

Vomiting of bile, more or less green and diluted, or mixed with digestive secretions or food, occurs as a symptom in congestion of the liver, and is strongly suggestive of gall-bladder disease. The vomiting of large quantities of bile, mixed with the secretions from the mouth and stomach and forming a grass-green liquid (*vomit* *aeruginosus*), usually characterizes a general peritonitis.

Vomiting of a violent nature, incessant and exhaustive, and accompanied by a severe pain in the epigastrium, points to pancreatic disease.

Vomited matter presenting the character of feces, stercoraceous vomiting, is the result of a reversed peristalsis, and usually bespeaks serious trouble in the intestinal tract. This trouble may be of an obstructive nature, or it may be a paralytic dilatation (*ileus*).

The class of cases which are generally designated as obscure stomach troubles are usually of a chronic type, i. e., for a long time there is an ill-defined clinical picture, the patient dragging along, growing apathetic, not sick enough to be in bed nor well enough to be at work. The appetite is of a variable nature, conforming to the moods of the patient, often showing a remarkable indifference toward food-stuffs. Well marked clinical symptoms are usually wanting, except a pain in the epigastric region and vomiting.

Now let us enumerate the different lesions of the abdominal organs, which are so prone to embarrass the stomach and cloud themselves in this vague clinical picture.

Foremost we must place the cases of appendicitis, especially those of a chronic nature. Here

the stomach symptoms invariably predominate. The condition may last for years and the inroads made into the patient's health can be well compared to the drop of water and the rock. Such cases even today are operated for ulcer of the stomach, and although no definite lesion can be demonstrated in the stomach a needless gastroenterostomy is performed. These stomach symptoms have been great stumbling blocks both to clinician and surgeon.

The behavior of the stomach in chronic appendicitis possesses distinct characteristics. The taking of food usually disturbs and rarely gives relief to that peculiar sensation of emptiness experienced by such a patient. If relief is obtained, it is only of short duration. Under such conditions, the patient usually drinks water or again partakes of food, with the result that a paroxysm of vomiting takes place. This emptying of the stomach brings relief. Such patients, although hungry, eventually fear to eat on account of the vomiting it excites.

From my experience gall-bladder disease can be placed next to chronic appendicitis as a cause of gastric disturbance. The picture presented varies according to the severity of the disease. In mild types of gall-bladder trouble there is usually a gastric disturbance, often coming soon after food is taken. It is eased by belching and slight vomiting. These paroxysms come with a sudden onset at irregular times, and are of short duration.

In the severer type the vomiting may be continuous and persistent. The vomited matter at first is the contents of the stomach, then bilious; however, it never becomes stercoraceous. Temporary relief follows the relaxation that attends vomiting, but with the return of the pain vomiting again appears. Not infrequently an attack of gall-stone colic suddenly ceases during vomiting.

In chronic cholelithiasis associated with inflammation and adhesions, vomiting occurs as a symptom of partial obstruction of the duodenum. In such instances the vomiting occurs some hours after taking food, is copious and followed by immediate relief. The complications of cholecystitis and cholangitis are marked by frequent vomiting. With the occurrence of perforation and its consequences, projectile vomiting is usually a persistent symptom.

Blood may appear in the vomitus, the result of capillary oozing from the mucous surfaces, due to cholemia or to venous engorgement from thrombosis or cirrhosis.

A lesion of a confusing nature which disconcerts the stomach to no mild degree is the chronic duodenal ulcer. Here we have a pathology representing a pure type of indigestion. Early in this trouble we have vomiting at intervals of one to four hours after food has been taken. The appetite remains good for a surprisingly long time. Later on, when the complaint makes its inroads into the patient's health

more pronounced, the appetite may fail or food is not taken on account of the frequent vomiting that now takes place. Eventually, when food no longer eases the pain, but rather increases the distress, the vomiting is often less frequent but more copious with but little relief. I may say, however, that there are duodenal ulcers where vomiting is not a constant nor a persistent symptom.

Intestinal obstruction resulting from all causes, on account of the delicate neuromuscular mechanism of the intestine, is very prone to embarrass the stomach.

Clinically speaking, vomiting is a constant and most distressing symptom of acute obstruction. It is a classical symptom and appears early; it may even anticipate pain. The time of onset is usually a half hour after the gastric pain has manifested itself. It may, however, be delayed as long as twelve hours. The characteristic feature of the vomiting is that it continues without intermission, becoming worse until it assumes a fecal aspect from the second to the seventh day. At first the vomit consists of the contents of the stomach, then becomes bilious, and finally it actually becomes a stream of brownish fluid with a foul odor. This act is of a very exhaustive nature, and often after large quantities of fluid are ejected a marked relief is experienced and the patient frequently falls asleep. In a few hours there is a reaccumulation, which starts the vomiting afresh.

The character of vomiting in chronic intestinal obstruction is quite different from that of the acute condition. Here the stomach disturbance is less marked, the vomiting occurring about the third or fourth day. There is, however, that feeling of gastric uneasiness which manifests itself at irregular intervals and may extend over a long period of time. A patient, as long as he abstains from food and is quiet, does not vomit, although he may feel sick. Gushing vomiting of a stercoraceous nature is seldom seen in chronic intestinal obstruction, and then only when the case has terminated acutely.

It is a fair rule to consider the more severe, profuse, continuous vomiting to be caused by an obstruction located high up in the alimentary tract, whereas those paroxysms of vomiting which are mild and late in manifesting themselves are excited by a lesion in the lower bowel tract. Acute obstruction, as a rule, implicates the small intestine; chronic obstruction, usually the colon.

In connection with the vomiting in bowel obstruction, I wish to make a few remarks with reference to gall-stone intestinal obstruction. Here vomiting is the great feature of the attack. It is severe, continuous and profuse, and is early stained brown by bile or blood, so as to closely simulate fecal vomiting. This condition

exists as long as the obstruction is, at first, in the duodenum. Later, usually on the third day, when the stone has moved from a close proximity to the stomach, the vomiting remits and becomes green; and when the stone becomes impacted in the intestine, the vomiting returns, is brown, and resembles the fecal stage of ordinary acute intestinal obstruction.

Probably no other pathological lesions makes a more violent assault upon the stomach than acute pancreatitis. Here the irritation of the sympathetic ganglia and plexuses produces frequent and copious vomiting, at first of a bilious character, later becoming less frequent and perhaps regurgitant, but never stercoraceous. The vomitus may be black and it may show streaks of blood.

In a passing manner, I wish to allude to the gastric disturbances caused by aneurysm of the abdominal aorta. Frequent vomiting is an early and fairly constant symptom. It may be caused by pressure, displacement and distortion by adhesions. Until the true condition is diagnosed, such patients are invariably treated for "stomach trouble."

Although the kidney is an extraperitoneal organ, I cannot refrain from speaking of the gastric disturbances a ptotic kidney may cause. It is often difficult to diagnose a loose kidney. Inability to do so will only strengthen the belief as to the possibility of a stomach lesion, inasmuch as the symptoms seem to have a direct bearing upon that organ.

A loose kidney by causing pressure upon the duodenum and traction upon the peritoneum excites a sympathetic disturbance in the stomach that is evidenced by nausea and vomiting. This nausea and vomiting may go on for an indefinite time at irregular intervals, the patient rarely giving evidence of any severe illness. It is my belief, however, that in the more aggravated cases of stomach trouble, the ptotic kidney, if on the right side, is to a less degree responsible for the gastric disturbance than is a chronic lesion of the appendix, so frequently associated with a prolapsed kidney.

In the citation of the abdominal lesions which inveigle the stomach into giving a morbid expression for them, I may state here with some conviction that out of a hundred cases where the gastric disturbance has predominated, possibly ten may show a stomach lesion. No attempt has been made to so picture the vomiting as to make it appear that this symptom was one of value in diagnosing or differentiating the various abdominal lesions. This is not the intention. The object is simply to show how readily a diseased organ may, through a reflex act, incite in a healthy organ a train of symptoms, prominent amongst them vomiting, which could readily be interpreted as a "stomach trouble."

Delmar Building.

DISCUSSION

DR. HERMAN E. PEARSE, Kansas City, Mo.: If we should take up a general discussion on the question of the diagnostic value of the sign of vomiting, it would lead us into discussion that would last the rest of this meeting. But there are certain points called out by the doctor's paper that I would like to emphasize in connection with the vomiting that occurs with peritoneal inflammation. It is rare to find an inflammation occurring from irritation along the alimentary tract reflected upon the stomach unless that irritation occurs in some organ between the fundus of the stomach and the middle of the transverse colon. To say that the irritation of the peritoneum and other parts of the body may produce vomiting is practically begging the question. You do not find it. The reason is not far to seek.

We know that in some cases of ulceration of the descending colon and obstruction of the rectum the patient does vomit. We know that in many ovarian and tubal inflammations the patient does vomit. But if we analyze the case carefully at operation or at post mortem, if the patient should be so unfortunate as to die, we will find that the peritoneal inflammation has reached over and involved the peritoneal covering of the area I have mentioned. The reason of that is not hard to find. It is developmental. The three primitive buds that develop the alimentary tract furnish: from the first one the mouth, the teeth, the esophagus and the cardiac end of the stomach; and it carries with it its own blood supply and its own nerve supply along the alimentary tract to which it is practically limited. The second bud gives us the grinding portion of the stomach, the pyloric end; it gives the pyloric muscle; it gives the pancreas and the liver, the gallbladder and the ducts; it gives us all the small intestine; it gives us the large intestine up to the middle of the transverse colon; and it gives us the appendix. There is the field where reflex vomiting is to be looked for; and if your patient vomits from reflected irritation it will usually be found that it is from streptococcic infection on the right side or along that portion of the intestinal canal. So if it occurs from a pus infection of the tubes or ovaries, or if it occurs from the third portion, the lower bowel, it will be found to have spread to the peritoneal covering of that second portion of the gut.

DUODENAL ALIMENTATION, WITH REPORT OF CASES

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We frequently meet with indications of greater or less urgency demanding forced nutrition by an artificial means of alimentation. These include vomiting and anorexia, organic and functional disturbances of the gastro-intestinal tract requiring rest, also stenosis at various points along the tract.

The inadequacy of rectal feeding¹ and the impossibility of maintaining nitrogen equilibrium by that means is generally conceded. Subcutaneous and intravenous nutrition, while having greater efficiency, have very obvious limitations. The duodenal tube offers the most efficient means now at our disposal for continuing artificial ingestion. Duodenal feeding has the

great merit of maintaining the patient in nitrogen equilibrium and even affording a positive nitrogen balance. It is directed to that part of the digestive tract which has the highest digestive function.

The duodenal tube was introduced by Einhorn² in 1910. He then reported three cases of duodenal alimentation for gastric and duodenal ulcer and for nervous vomiting, in which he continued the method for from nine to twelve days, with stationary or slight increase in weight, and with remarkable improvement in symptoms. Later, Einhorn and Rosenbloom³ reported cases of duodenal alimentation with the determination of the nitrogen intake and output in which a positive nitrogen balance was exhibited throughout the feeding period.

Wolff⁴ reported the use of the method in children with spectacular relief of inanition.

Gross and Held⁵ reported on their use of the tube in alimentation, giving the details of their method and of the nutrient fluids, and asserting as a further indication for its use the failure of the dietetic treatment of ulcer of the stomach or duodenum after one week.

Jones⁶ reports using the method in 200 cases. He had perforation occur in one ulcer case during the intubation period. In addition to organic conditions requiring rest, he applies the method in gastroparesis, gastric atony and dilatation of the stomach.

Reuss⁷ states that the method has solved the problem of nourishing a patient while leaving the stomach entirely at rest, and thinks it should be given a thorough trial before operating on a rebellious ulcer.

The cases here reported are, with one exception, cases in which the indication for forced nutrition was of primary urgency, irrespective of diagnosis or relief of primary lesion or etiology.

CASE 1.—S. E. M., aged 25; white female; single. Had been sick nine years, beginning with nervous breakdown while at boarding school. She had various nervous symptoms associated with menstrual disturbance. Appendectomy was done six years previous. The patient was later under the care of a physician in Washington, D. C., for one year, with much improvement, and an increase in weight to 130 pounds. In 1910 she was very well and drove a motorcar with much skill and pleasure. The menstrual disturbances, chiefly pain, were never relieved and became worse. The ovaries were removed at two operations. There was some improvement, but no cure. In November, 1914, she was taken to a hospital in Jacksonville, Ill. She was able to walk at that time. She had much pain in the epigastrium and began vomiting after a short time in the hospital. Hematemesis occurred. Rectal feeding was used as the principal measure.

2. Einhorn: *Med. Rec.*, July 16, 1910.

3. Einhorn and Rosenbloom: *Am. Jour. Med. Sci.*, July, 1911.

4. Wolff: 'Abstr. Jour. Am. Med. Assn., Jan. 31, 1914; original, *Therap. Monatsh.*, December, 1913.

5. Gross and Held: *Jour. Am. Med. Assn.*, July 7, 1915.

6. Jones, C. R.: *Surg., Gynec. and Obst.*, February, 1916, pp. 22, 236.

7. Reuss: *Abstr. Jour. Am. Med. Assn.*, July 11, 1914; original, *Berl. klin. Wchnschr.*, June 1, 1914.

1. Adler: *Jour. Amer. Med. Sciences*, Oct. 15, pp. 150, 562.

until the patient was taken home in January, 1915. She steadily grew worse. The vomiting continued, often of blood. Her treatment included starvation periods, rectal feeding, and the use of much opium. The patient lost weight, until, when first seen by me, she was at a terminal stage of starvation, weighing about 50 pounds (estimated).

The patient entered St. Luke's Hospital on a stretcher, May 7, 1915. She was then vomiting everything taken into the stomach, and suffering from constant pain in the epigastrium apparently severe.

Physical examination: The patient was lying in bed, helpless, unable to care for herself because of general weakness due to most extreme emaciation. She complained constantly of pain in the abdomen. There was a slight inequality of the pupils; pupillary reactions were present. The heart and lungs were negative. The abdomen was scaphoid, with rigidity and great tenderness in the right upper quadrant. The cecum was palpable and full. The sigmoid and descending colon were palpable and contained fecal masses. There was no edema. The reflexes were not elicited. Urinalysis revealed a very slight trace of albumin and a very large amount of both acetone and diacetic acid. Examination of the feces gave a very faintly positive occult blood reaction.

A tentative diagnosis of ulcer of stomach and inanition was made. The possibility of gastric neurosis with vomiting was also considered. The immediate indication, without further diagnostic procedure was to secure nutrition. Of all available methods, that of duodenal alimentation was the only one which had not been attempted, and which promised to meet the urgency of the case.

Intubation was accomplished with difficulty, due to the persistent vomiting, and was, during the first few days, interrupted several times by displacement of the tube with the retching. However, with persistence the method was successfully used, and the acidosis was corrected by the end of ten days, with a concomitant marked improvement in the general condition of the patient. On the thirteenth day small amounts of liquid food were allowed to be taken by mouth along side of the tube, and the combined oral and tube feeding was used for eight days more. The tube was then removed. On the twenty-fifth day after admission the patient weighed 76 pounds. Two weeks later she had a sudden and severe attack of pain in the right upper abdominal quadrant with marked muscle spasm, and without chill or fever. A few days prior to this, in spite of the patient's weak condition, a bismuth Roentgen-ray examination had been attempted and sufficient observation secured to demonstrate the lack of any gross organic condition of the stomach. It was now decided that an exploratory laparotomy would be necessary to confirm the diagnosis of a simple gastric neurosis, which had been made, and also further to determine the character of future treatment. It was felt that there was a distinct possibility of cholelithiasis. Laparotomy was done by Dr. P. Y. Tupper on July 19, 1915, and all the organs in the upper abdomen were found to be in a perfectly normal condition.

After the postoperative discomforts were over, it was explained to the patient and to her family that the condition was purely a neurosis, and would have to be treated rigidly on that diagnosis. The further use of morphine was denied, and the patient was held in the hospital until one week had elapsed after her last small dose of narcotic. She left the hospital weighing 86 pounds, and in a very excellent physical and mental condition.

This case is notable not only because of nutrition obtained by means of the duodenal tube, but also because it was a very extreme and almost fatal gastric neurosis.

CASE 2.—L. I., aged 21; white female. This case proved eventually to be an albuminuria of pregnancy and pernicious vomiting, which duodenal feeding effectually relieved.

The patient was single, and when examined gave a history of having had severe vomiting attacks for one year, each attack lasting from three to eight days. Jaundice was associated in one attack. Six months prior to the first attack she had had an operation for a suppurating appendix.

Roentgen-ray examination showed a delay in the clearing of the terminal ileum. A diagnosis of slight obstruction in the terminal ileum, due to adhesions, was made. About a week later she was taken at home with very violent vomiting and pain in the right upper abdomen. She was sent to St. Luke's Hospital. Various measures that were used during the next six days failed to control the exhaustive and pernicious vomiting, or to prevent acidosis. Duodenal intubation for feeding was then done. During the next ten days she was given by this method daily from 1,000 to 2,400 calories. The severe acetoneuria was corrected by the fourth day. During the last two days of feeding she took food by mouth along side the tube.

Operation for the relief of the ileocecal obstruction had been advised, and was now accepted by the patient. Because the patient was single, and was acquainted with medical facts in an intimate professional way, the fact that she was concealing her pregnant condition was not suspected. On the operating table it became evident that we were dealing with pregnancy. Laparotomy was done however, but no adhesions could be demonstrated about the ileocecal valve sufficient to warrant operative measures for relief of any obstruction.

CASE 3.—F. B., aged 15 years, white male. The patient had had an otitis media which resulted finally in a mastoiditis, and was operated. Following this a sinus thrombosis occurred, necessitating resection of the vein to the clavicle. He had a very high temperature and slow pulse, which was evidently due to intracranial pressure, although, because of it, two Widal examinations were made. These were negative. Three blood cultures were made; the first was negative; the second was positive, yielding a streptococcus; and the third was negative.

At about the sixth week of the postoperative course there occurred an acute dilatation of the stomach, with recurring vomiting of a residual type, and with the coincident development of a severe urinary acidosis. After failure of mouth feeding associated with frequent gastric lavage, the duodenal tube was passed and nutrition accomplished by that means. Successful feeding was carried on by this method for six days, securing daily from 1,000 to 1,400 calories and a very large fluid intake. The beneficial effect of this increased nutrition and of the large amount of fluid was very evident. It did not, however, alter the fatal outcome, as the boy soon succumbed to his infection.

In this case, while not obviating the final fatal termination, the duodenal feeding undoubtedly gave more time and improved conditions for the use of other measures pertinent to the case. In other cases, with similar indications, the tube would doubtless be a fundamental factor in their favorable outcome.

CASE 4.—Mrs. S., aged 50, white. She complained of severe pain in the abdomen and back, and of vomiting, and was unable to take any large amount of nourishment. She had developed a severe urinary acidosis, and nutrition by mouth could not be sufficiently forced to correct this. Roentgen-ray examination showed only enlargement of the liver, especially

of the left lobe. A diagnosis was not made; possibilities of syphilis of the liver and of carcinoma of the pancreas with hepatic metastases were considered.

The duodenal tube was used as a means of forcing nutrition preparatory to exploratory laparotomy. The patient was sufficiently morphinized for the control of the pain and restlessness. Feeding was accomplished with only partial success, but sufficient to correct the acidosis and definitely improve the general condition of the patient. The feeding was carried on for two weeks, with a few interruptions due to the displacement of the tube which resulted from the patient's very great restlessness.

Operation was then done, and a large cancer at the head of the pancreas was found.

CASE 5.—Mrs. C. H., aged 36, white. The diagnosis was marked asthenic conditions and atony of the stomach. There was a complete failure to improve nutrition or to correct atony by various dietetic measures. The duodenal tube was used in order to give the stomach a complete rest. Feeding was continued for eight days. The patient was supplied with 1,000 to 1,800 calories daily. The stomach was given an absolute rest. Large feedings could at no time be given because of very great distress, described as "akin to nausea, but somewhat different," which the patient had immediately with each feeding.

Following this period of duodenal feeding the patient was able to take large quantities of food by mouth, and gained steadily in weight.

METHODS

Intubation has been accomplished in my experience without any elaborate manipulations. I have used a small thick-walled tube, No. 8, using at different times both the Einhorn gold-plated olive and the larger Rehfs fenestrated, steel olive. I have no preference. When possible I have the patient sitting when the tube is introduced into the pharynx. That position is not necessary. The olive may be introduced into the pharynx by the operator when the patient says "Ah." The patient then swallows once. The olive is grasped by the pharynx and esophagus and rapidly carries the tube down. Any gagging or retching induced by the tube being in the pharynx is best controlled by rhythmic breathing. The patient should be carefully instructed about the manner of swallowing the tube, otherwise he will endeavor to chew in the tube, and to aid its passage by repeated swallowing. This tends to aggravate the retching. When the tube has reached the cardia as determined by the 45-centimeter mark, the patient turns on the right side, and the tube is then introduced to the 80-centimeter mark. With this simple manipulation, the olive progresses over the lesser curvature and into the pars pylorica, from where it will on favorable peristaltic action be taken into the duodenum. When vomiting has been a distressing symptom, the comfort of the patient is much improved and the passage of the tube facilitated, if before attempting to present it at the pylorus, the stomach is lavaged by several syringes of water, to which sodium bicarbonate may be added. It has seemed that by inflating the stomach moderately, the olive was more readily placed at the

pylorus. Inflation secures a separation of the stomach walls, which would not otherwise occur unless by fluid. This separation lessens the liability of the olive lodging in a sulcus and of the tube curling. After the olive has been placed at the pylorus, it is necessary to await its passage into the duodenum. Others have used various manipulations to facilitate this, such as elevating the hips and turning the patient on the back at occasional intervals. I have never found that these availed much. The entrance of the tube into the duodenum is made certain by the aspiration of water-clear, characteristic golden yellow duodenal contents. Duodenal contents are often regurgitated into the stomach and become turbid when mixed with acid, and the aspiration of such turbid fluid does not indicate with certainty the correct position of the olive. When uncertainty exists, various fluids may be introduced into the stomach, either by mouth alongside the tube, or by the use of a second small tube, introduced only into the stomach. Milk may be used, or water colored by carmin or by methylene blue. If one of these, which has been introduced directly into the stomach, is immediately aspirated from the duodenal tube, it is certain that duodenal intubation has not yet been accomplished. If it is impossible to aspirate these colored fluids after repeated attempts, and instead we secure characteristic duodenal contents, the olive is certainly located in the duodenum. The duodenal tube is then introduced until at least 90 cm. are within the alimentary tract.

It is often a problem to maintain intubation permanently, especially when vomiting or retching is persistent. In my experience keeping the stomach empty is one of the best means of maintaining the duodenal position of the tube, and I have used a second tube, terminating in the stomach for this purpose. This has served not only to keep the stomach empty, but by occasional lavage has reduced the tendency to vomiting, and has had a very helpful therapeutic action on any intragastric condition.

When the tube is in its proper place, the patient may rest on the back. However, with any danger of misplacement, I prefer to have the patient lying on the right side as long as that position is comfortable. The left-sided position is distinctly contraindicated.

To very sick and nervous patients the tube is apparently very annoying and discomforting. In these urgent cases I have used morphin or chloral hydrate. Bromids will sometimes be sufficient. The annoyance has seemed to be a result of the patient's general nervousness and sensitiveness, more than a direct effect of the tube. One patient, who complained of much of this annoyance, requested after she had recovered to the point of taking all food by mouth, to retain the tube for two days, that she might take a preoperative dose of castor oil by that

means. One patient, having much delirium and resenting the use of the tube, endeavored to bite and chew the tube in two. Passing the tube outside the teeth between the alveolar process and the cheek, and allowing it to enter the throat behind the last molar, protected against this. This position was unusually well maintained. Adhesive strips surrounding the tube also protected it from the teeth. This patient would make quick endeavors to withdraw the tube, and once did so. To prevent this a gauze neck-lace was used, and the tube pinned by means of adhesive straps to this neck-lace.

Others have used a cocain solution for the throat and esophagus before attempting intubation with certain hypersensitive patients. I have never found this necessary and have never failed to pass the tube into the stomach without any such aid, although it was frequently necessary to make many attempts.

The location of the olive in the duodenum is a consideration of greatest importance. Feeding progresses better and the patients are more comfortable apparently when the tube is allowed to progress into the third part of the duodenum or into the jejunum. When held higher in the duodenum patients suffer after feeding from feelings of great distention and nausea. The tube should properly be beyond the pylorus from 20 to 35 cm., or about 125 cm. from the teeth.

The services of a trained nurse are of the utmost value, especially in urgent cases. Most nurses very readily learn the use of the tube and control it quite satisfactorily. I usually give the nurse a brief set of typed instructions as follows:

The tube is in the duodenum when golden yellow bile can be persistently aspirated.

If the tube is in place, the patient may be in any position other than lying on the left side. Should the tube be dislocated the patient should lie on the right side, but may occasionally turn on the back for a few minutes.

Retching due to the tube is best controlled by rhythmic breathing.

Feeding is accomplished by

1. Slow injection.

2. Gravity flow. The nutrient fluid is poured into the syringe barrel and allowed to flow into the tube very slowly; the rapidity of the flow is easily regulated by the height of the barrel above the mouth.

3. The drop method, in which a continuous saline drop apparatus is arranged to give the fluid into the tube at from 40 to 60 or more drops per minute.

After a feeding is finished, inject a few cubic centimeters of warm water and then a few cubic centimeters of air, to clean and empty the tube of the nutrient fluids. The tube holds only 5 cubic centimeters.

The feedings progress as follows:

1. Two ounces of whole sweet milk are given each two hours from 6 a. m. to 8 p. m., increasing each feeding by 1 ounce each day.

2. On the third day one egg is added to every third feeding, and on the fifth day to every second feeding, and later to every feeding if so ordered.

Have the fluids at a temperature of 90 to 100 F. when administered.

In case sodium citrate is ordered, it is used 1 grain to each ounce of milk.

Discontinue feedings should the tube become displaced, that is, if bile cannot be aspirated.

Small quantities of water, cool but not iced, may be allowed by mouth.

Attention should be paid to the stools for the appearance of curds or excessive fermentation.

Other nutrient fluids used are prepared according to the formulas which follow. They are arranged to eliminate any one of the usual foods, milk, eggs and lactose, which may not be well borne.

1. Whole milk, 6 ounces; eggs, two; lactose, 2 ounces.

2. Strong broth of chicken or beef, 6 ounces; eggs, two.

3. Cream of wheat prepared as follows: Four ounces of dry cereal cooked in a double boiler for two hours and until very thick, made thin with whole milk until it can be forced through the tube. One ounce of sugar is added, one-half dram of salt. Quantity of milk is noted in order to calculate the caloric value.

4. Oatmeal jelly is prepared in a similar way.

5. Whole milk and beaten whole egg are also used.

6. Very frequently, when acidosis is severe, 25 per cent. glucose solution is used.

When duodenal feeding is continued for any long period, laxatives should be used as is necessary to clear the bowel and reduce fermentation. These may be given through the tube.

316 Wall Bldg.

OBLIGATIONS OF PHYSICIANS; HOW MAY THEY BEST BE MET?*

W. S. ALLEE, M.D.
OLEAN, MO.

If an explanation or apology is needed as to why I am inflicting upon this body of able and busy men a paper on the subject named, I will state that your Committee on Program should assume the responsibility. If I can present the subject in such manner as to elicit free discussion it will remove some of the anxiety and misgivings as to the propriety of taking your time

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from the scientific program to consider matters that may not appeal very strongly to many of our members.

It could serve no useful purpose to detail the duties that belong to all good citizens, for it will be conceded that we are in this class and have no desire to shirk the responsibilities that fall to it.

The State has given us some incidental protection from laws to govern the practice of medicine and surgery, which were of course primarily intended to protect the public from impostors and incompetent practitioners of medicine. Physicians have obligations that are implied from the nature of their profession and the laws referred to which they should meet by helping to prolong human life, productive capacity, and general well-being. The principal asset of the State is the lives and productive capacity of her citizens, and physicians by reason of their technical knowledge may reasonably be expected to use their best efforts to preserve life, health and productive capacity, by helping to enforce hygienic laws and methods to protect from the causes of disease and injury.

Our State Association has been instrumental in securing some very good laws that have been of untold benefit in protecting the public from disease and injury as well as from impostors who from self interest would prey upon the sick and afflicted. We have a medical practice act that compares favorably with the best in any State of the Union, thanks to the untiring efforts of a few self-sacrificing and public-spirited physicians, some of whom are now resting from their labors, and it will be our duty to see that these good laws are not repealed or amended so as to render them useless for the purposes intended. These laws were secured in spite of the opposition of all elements that from selfish interest would prey upon the sick and afflicted when they are least capable of protecting themselves from imposition by frauds and incompetents. The same combined forces are watching for an opportune time when they may attack and repeal, or emasculate by amendment, our laws regulating the practice of medicine, and if we are to hold what we have it will be necessary for us to act with vigilance and wisdom. We have rather stringent laws against the sale of impure drugs and foods that are being enforced without special opposition, but in the treatment of human frailties, both physical and mental, the most arrant frauds seek to and are frequently permitted to prey upon the afflicted. It is only by loyalty to principle and organization that we can succeed in holding the protection demanded in the interest of humanity; selfishness and pride of individual opinion should not be permitted to interfere with this work. We have too many physicians in our State who hold views at variance with the positions taken by our State Association,

the only mouthpiece for the organized profession, and pride of opinion leads them to assume a hostile attitude or at least they show an indifference that is equivalent to open opposition. We ought to act in harmony the individual should yield to the majority, so that support or opposition from our State Association may have the united approval and loyal assistance from the individual members.

Too few physicians have considered seriously the obligations that may justly be charged to our profession by reason of special qualifications we possess to deal with them. The doctor should allow no man in his community to surpass him in educational efforts along lines that promote health, happiness and general well-being, much of which is covered by eugenics. Unity and harmony makes a community strong and a desirable locality in which to live. Our State being composed of counties made up of local communities, will advance in proportion to local advancement, while local indifference will lead to stagnation in the State. As good citizens we should endeavor to have the individual subordinate selfish interest, envy and jealousy to the common good, accepting and seeking help from every source of power acting from high motives and a genuine desire to benefit all.

Medical education never loses interest with us, for the future of our profession is dependent upon sound teaching and the character and fitness of those to be taught. Our medical schools have assumed a high rank in the last few years and now compare favorably with the best of any State in the Union. Let us demand that no backward step be taken and that the best schools shall not be hampered by opposition from sources influenced solely by selfish greed.

I will not dwell upon the first division of the subject, for the good sense of our members will tell them what their civic and special duties may be and the obligations they ought to assume when public interest demands it. That which may cause a difference of opinion and conflict in action is to determine the best means of meeting successfully what we concede to be our obligations to the public.

We have to deal with public officials in most of our efforts to serve the people outside of our routine duties in the treatment of the sick. It is therefore necessary that we should know the best methods of reaching and influencing these officials on questions which do not appeal to them very forcibly. The best time to have men give you a favorable hearing is when you have something to give in consideration for that which you ask. "A free exchange is no robbery." Ask men before they are elected to office how they will act on those questions in which you are vitally interested. It is right that a candidate for public office should state his position on specific questions, and he should state to

whom he will look for advice in matters requiring special information, which he, the candidate, may not have by reason of his vocation and training. Legislation that affects medical education and practice, or public health interests, ought to be influenced largely by advice of experienced and reputable physicians, just as subjects depending upon a legal training for proper understanding are, and should be, influenced in their settlement by the advice of competent attorneys at law.

Organized society in our country is governed by majorities, and all wise and beneficent laws are dependent upon the support of an intelligent and unselfish majority. This majority can have what it wants in legislation if it will but demand it. Physicians should be an inspiration for good and can be leaders in getting good laws, or the formation of wise customs which are in effect equivalent to law and many times are more potent for good. We can have greater influence even in our special field by taking a more active interest in politics. I would be glad to see every capable and ethical physician become an active politician, using the word in its best application, to mean a knowledge of the science of government as against the objectionable meaning of office seeker and ward heeler. I would have every doctor discuss with his friends, men and measures, in season and out of season, that he might acquire influence which would cause him to be consulted about the selection of all public officials. Physicians should observe closely the acts of public officials bearing upon those questions which most nearly affect our work, and when these acts are commendable, praise them for doing their full duty; and on the contrary when they are clearly influenced by special interests to do that which is incompatible with the general good, condemn them and show wherein they have abused their power. We must not wait for heated political contests to do this service, but take advantage of our daily intercourse with the best people to discuss the conduct of office-holders who may have failed to resist the demands of special interests. We can do our most effective work in the interim between elections.

There are a great many public officials and men seeking official position who need to know more about the power for good which our profession may wield when opportunity offers, and it would be well to impress this fact upon them. I recently read a statement by one of the leading candidates for Governor of our State as to the principles to be advocated in his canvass for the nomination, and which were to be carried out in the event of his election. He said that in recommendations as to reforming our code of laws for the trial of causes by our State courts, he would be guided by the advice of the good lawyers of the State speaking through the State Bar Association. This was a most reasonable

position for him to take as he was not a lawyer, but why did he not go a step further and say that in matters pertaining to the practice of medicine and protection of public health he would be governed by the advice of the best physicians of our State speaking through the Missouri State Medical Association, as another candidate for the same position had the good sense to say. We should never be content until our State Association shall be recognized in its special field, as is the State Bar Association. This worthy man may never have been impressed with the fact that public health laws were of paramount importance to our people and he may know little as to the character of the work done in the past by our State Association or the principles for which it stands. I should dislike to believe that he was afraid of that element in our State which opposes everything and every man that has the unqualified endorsement of the Missouri State Medical Association. I have referred to this as an evidence that we should endeavor to help elect good men to office and to defeat bad ones. It is essential that we use our best efforts to get honest and fearless men elected to office in cities, towns and villages, as well as county and state officers. We must have a foundation for all good government; to build wisely we begin at the bottom and build up rather than to begin at the top and build downward. We can have great influence in helping to secure good municipal, county and State government, by making a careful study of the problems we would handle, thoroughly informing ourselves as to every phase of the subject and as to the character of the men to whom we must look for carrying out measures advocated.

One can hardly hope to lead others who is himself blind. A man must know what is good for the masses and why it is good for them before he seeks leadership; he must also be practical and timely in his advocacy of men and measures, as few men will follow a dreamer or theorist. At the primaries we can do our best work by trying to have good men accept the tender of a nomination and then use all reasonable efforts to have them nominated and elected. If we allow men to be nominated who cannot be trusted our hands are tied and no choice can be had that is worth fighting for. In asking for new legislation or in an effort to hold what we have we should try to have the public understand that we are acting from the best motives and are unselfish to the same extent that it is conceded we are in when advising the destruction of flies, mosquitoes, fleas and rats. We have much misinformation and prejudice to combat and can best meet this by frank, open discussion. We want no dark lantern methods but publicity is what we desire. Our cause being just we have but to place it before the public in its proper light and success

is assured. We have this advantage over all opposition that we have so far encountered, that what we have contended for has been clearly in the interest of the public, whereas our opponents claims to recognition have been largely based upon self interest; theirs is a desire to get something from the public rather than to give help not hitherto enjoyed. Their strong card is the personal and religious liberty cry, and this appeals forcibly to the uninformed and thoughtless, just as the promise of something which people want and have been unable to find always commands a following.

I have felt that we should cultivate a more open and frank relation with the public press than we have enjoyed in the past, hoping to get a fair hearing on all questions which concern closely our relations with the public. So many people read little or nothing outside the newspapers, getting all their information from this source, that the press has acquired a power that is dangerous when misused, whether from misinformation or otherwise. The better class of newspapers are so nearly always with us in condemning the most open and notorious quacks, that it is sometimes surprising to find sentiment expressed that is most dangerous to the success of efforts of our profession to handle successfully questions that are of vital interest to the public. This is usually due to a misunderstanding of what we are advocating and could be easily remedied by reliable information to be supplied by or through publicity committees of the various county medical societies of the State. As to the desirability of having a more liberal support from the press and a better feeling toward our organization, I need only mention the fact that recently when the St. Louis Medical Society attempted to discipline a member for the infraction of the code of ethics of the American Medical Association, the press of that city, with one exception, denounced and criticised the action most bitterly. The editorial comments by laymen who knew little and cared less as to the teachings of a code approved and observed for a century by gentlemen who were the peers of the brightest and best men in any profession of this or any other country, were certainly unwarranted and inexcusable. The public suffers more than our profession when we disregard rules of conduct intended to maintain high character and professional honor, and intelligent laymen ought to know and appreciate this. We can hardly hope for the respect and support of editors of the metropolitan press while we tamely submit to such ridicule and unmerited criticism. Do not misunderstand me, I am not giving an opinion as to the merits of the particular case; of this I know nothing; but the action of laymen in ridiculing the members of a learned Society for taking action deemed necessary to protect their good name as a society and the professional

character and standing of their individual members, is, in my estimation, unpardonable.

The teachers in our common schools have a great influence and could have more if their opportunities were properly directed, and we can have their help if we will but invite their cooperation along proper lines. The teachers are not appreciated and paid for their services as they should be and if we lead the demand for better schools and proper recognition of the valuable service of the teachers we could place them under obligations to study our plans for the betterment of all the people and thus strengthen any cause we might espouse. We might be of assistance to teachers by discussing with them some features of their work of which we may have advantage by reason of training and special information. They are expected to teach the physiology of digestion and the evil effects of tobacco and alcohol on the human system, and here we find no exception to the rule that "a little learning is a dangerous thing," for they so often take an exaggerated view of the ill effects both of alcohol and tobacco that it causes even children to doubt the reliability of the teaching, and incidentally to lose some faith in the medical profession, believing as they are apt to do that we are responsible for the position assumed by the teacher. Children have a wonderful influence with the parents and if they are properly taught will make the strongest allies we can have in the near future. I would like to see school children taught to respect and select as models for emulation physicians who have distinguished themselves in the treatment and prevention of disease. It is to be regretted that teachers and pupils in our public schools know little or nothing of the invaluable service to humanity rendered by men distinguished in medicine. Why can't we have school children to talk of eminent medical men, accepting them as models to emulate, rather than worship military heroes? It is a mistake not to have placed before the public reliable information as to the progress in medicine and from what sources all that is good and lasting has come, while the most brazen pretenders have spent time and money to spread false and misleading theories as to the cause and treatment of disease without having excited a protest from us or from the public press. A taste for the work outlined may be cultivated and made pleasant, or at least not irksome, by dropping occasionally our routine duties and devoting a little time to public welfare work.

No one man is expected to do wonders; no individual should overestimate his power and obligations. Let each attend to his own locality, trusting that men enough throughout the State may do this to make success possible.

There is no occasion for pessimistic predictions as to our future troubles. We are not

drifting backward. There was never a time when professional honor and professional ideals were held in higher esteem. The time is not here and never will be when all physicians will measure up to the ideal, but the world grows better and doctors are leading in all that is for the best for mankind. We may well feel encouraged at the progress thus far made, what we had to fight for twenty years ago is now not only accepted cheerfully, but the people would smite any man who would dare attempt to deprive them of blessings which at one time had to be forced upon them.

DISCUSSION

DR. HERMAN E. PEARSE, Kansas City, Mo.: It is a difficult matter to discuss a paper on the ethics of the medical profession written and presented by Dr. Allee in any other terms than to say that you approve of the paper and all that he has said. Perhaps better than the precept of the paper has been the public life of the man that read it. In the last fifteen years, since the beginning of the fight of the medical profession in Missouri for better things commenced—at a time when every county was flooded with quacks, when every Saturday night the public squares were surrounded by the fakers with their bands and their flags and their shows, selling patent medicines and claiming to be great specialists from New York and Chicago and London and everywhere else, when the condition of things that we had in the state of Missouri was such that we were the general dumping ground for quacks and incompetents, when our medical colleges were selling their diplomas openly and flaunting their privilege, and admission to practice was only a matter of the payment of money—since the time this fight was begun by the Missouri State Medical Association fifteen or sixteen years ago there is no one who has taken a more constant or a more successful part than Senator W. S. Allee, and for the last eight years in his position at Jefferson City he has stood like a stone wall for the things that are right. I have talked with senators, governors, politicians, and I have always heard them say: "We have the highest respect for whatever Dr. Allee tells us; if what you people want you think is right, go and tell it to Senator Allee; if he thinks it is right I think there will be no trouble about the senate doing it."

This brings us to the subject that the doctor spoke of so earnestly, professional ethics. The ethics of our relation of one to another are certainly actively enough stated in every county and state medical society. We are continually reminding ourselves of little breaks in our conduct, but the professional ethics have perhaps the least to do with the duty that the physician assumes in regard to his fellow practitioner. There are the private ethics of the man, and there are the ethics of public service, and that is why I would say that the life of the man who read the paper is perhaps a more eloquent plea for the ethics, personal ethics and ethics of public service, than is the paper itself.

The next strong force in the state of Missouri that has helped us so greatly in acquiring what we want has been the services of *The Journal of the American Medical Association*. When they began their campaign of publicity, their campaign against wrong, their campaign for public health, their campaign against nostrums and quackery, they were assailed from every quarter. They have been sued they have been threatened, they have been injured in every way that a publication can be injured; but

never for a moment have they turned from their support to us whenever we have tried to do that which was better for the medical profession in our own communities. Whenever we have tried to help the stand of professional ethics or the ethics of public service we have always found *The Journal* standing by us, ready to advise, ready to help, and ready to go ahead like a flaming sword of right and to point out and lead the way.

Dr. Allee said a great thing when he asked us to eliminate from the motives that controlled our professional life, selfishness and the desire for personal gain. Selfishness, it seems to me, is the greatest mainspring of human activity. It is rare indeed to find a man who does the best work of his life, or the hardest work of his life, unless he has back of it the mainspring of selfishness; and to ask one, as we must ask every member of the medical profession who expects to do public health work, to ask one to lay aside his selfish motive, to ask him to disregard the wealthy, influential client in his own neighborhood who is violating some public health ordinance and go after him and thereby lose a large, lucrative portion of his daily practice, to ask him to take the unpopular position in their own communities and to fight against what the community is trying to do because, perhaps, that is against the welfare of the children and the women and the people of that town, to take an unselfish position, to sacrifice our money, to sacrifice the things that put one doctor above another, to humble ourselves to the yoke of personal and of public ethics and the ethics of public service, is a hard thing to do, and I know of no man in the Missouri State Medical Association as entitled to do it as the man who has sacrificed the best part of his practice for the last eight years in behalf of the ethics of public service.

The problem of today is no different in this matter from what it is in all other matters of public life. It is the question of getting the best members in the community to work for it—the community.

SELECTIVE EFFECT OF IRRADIATION
ON LIVING CELLS*

W. L. BROSIUS, M.D.

GALLATIN, MO.

The title of my paper is evidence of the poverty of our language. A Greek testament would be a poor guide for many of us to the land beyond the Great Divide. Nor does the menu in French always indicate what the waiter will bring us. The electrical vocabulary has increased so rapidly of late that the lexicographer has had to work overtime, with morning, evening, Sunday and extra editions in his effort to help us get some little conception of what the other fellow is thinking about. For the present we will consider only the emanations from the Crooke's tube and from radium, neither of which should be thought of as an entity, each being very complex and difficult of analysis.

The knowledge we have of the emanations from a vacuum tube give us some understanding of the character of the emanations from

* Read at the Fifty-Ninth Annual Meeting of the Missouri State Medical Association, Excelsior Springs, May 8-10, 1916.



Fig. 1.—After deep Roentgen rays.



Fig. 3.—Lympho-sarcoma. Return after extensive surgery.



Fig. 2.—After deep Roentgen rays.



Fig. 4.—After deep crossfire rays.

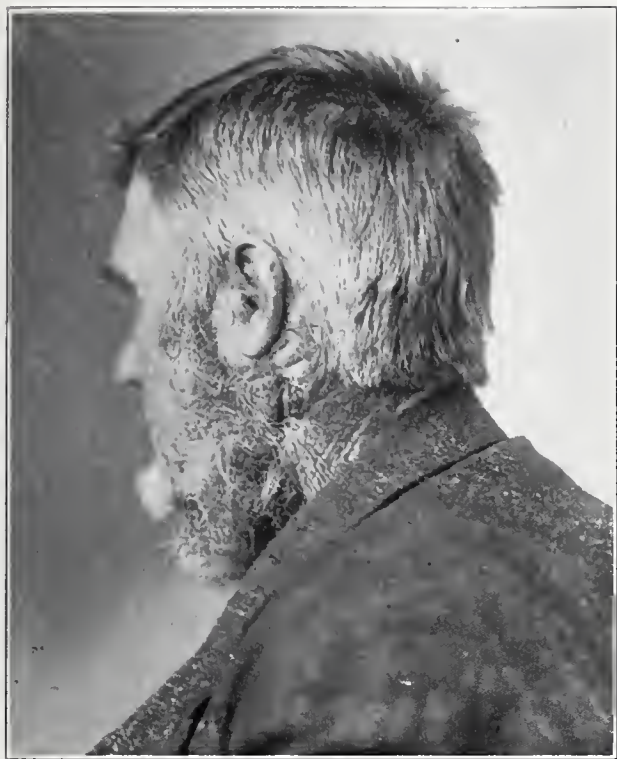


Fig. 5.—Return after removal of glands.



Fig. 7.—Selective effect. Mucous membrane.

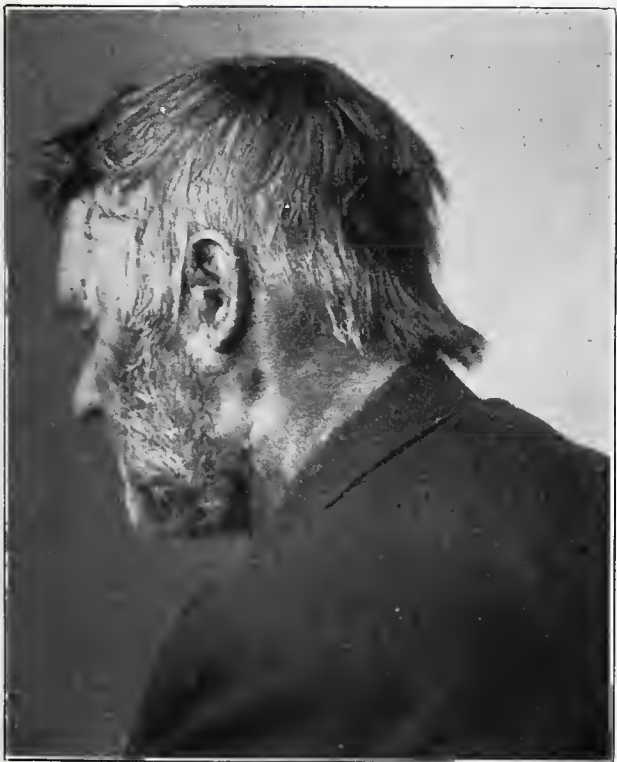


Fig. 6.—After deep rays.



Fig. 8.—Selective effect. Mucous membrane.

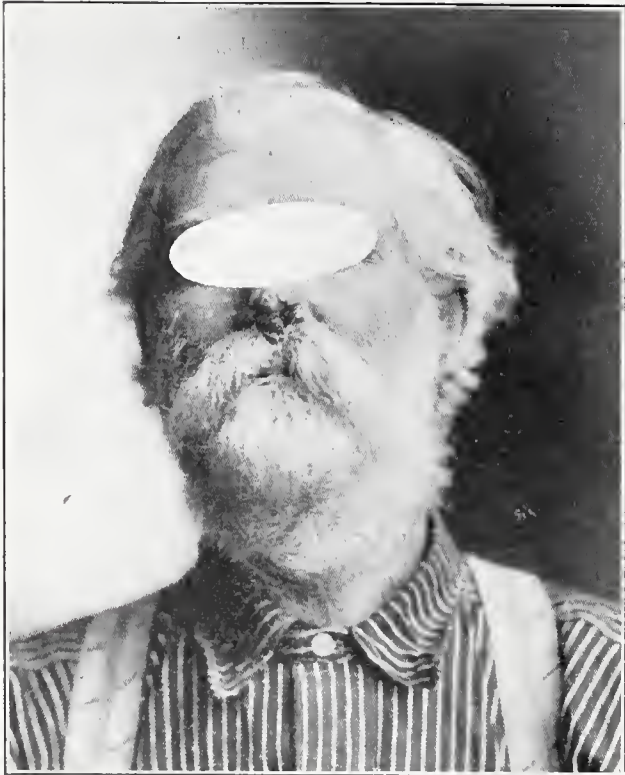


Fig. 9.—Skin and mucous membrane.



Fig. 11.—Skin.

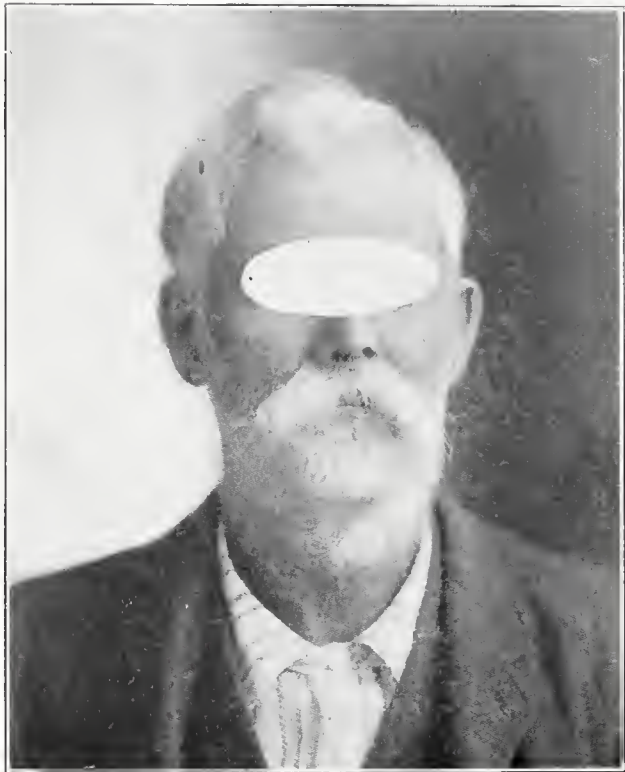


Fig. 10.—Skin and mucous membrane.



Fig. 12.—Skin.

radium. We can safely say that the radioactivity emitted from a Crooke's tube differs in no material way from the emanations from radium.

Most standard tubes give off rays having three distinguishing characteristics, which for convenience we call alpha, beta and gamma.

The alpha rays carry a positive charge, are of long wave length, high ionizing power and very

ionizing power, but of wonderful penetration or power of projection. The waves of these rays pass through inches of lead or iron and have been detected a distance of three city blocks.

From radium this electro-magnetic impulse penetrates lead or brass of several millimeters, and can be used alone by screening with 2 mm. of either of these two metals. The quantity and quality of these rays from a tube depend on the voltage, amperage, distance from target, time of exposure and absorption by screen and tissue. From radium they depend on the amount of radium element, time of exposure and absorption by screen and tissue. In addition to the measured and screened rays, there is the disposition on the part of cells and tissue to become radioactive, which we must take into account.

Of the destructive effect of these complex emanations there are none who doubt. But of our ability to select and direct them so as to destroy the malignant cell while the normal cells are spared, there is yet some lingering doubt in the minds of a few.



Fig. 13.—Where there was destruction of cartilage.

limited penetration. In contact with matter, they liberate electrons of low velocity and very destructive of cell life. Fortunately, they are very easy to screen out with aluminum, leather or paper. These alpha rays from radium are absorbed by the glass or platinum container, and from naked radium in the electroscope by one sheet of writing paper.

The beta rays carry a negative charge, or, if you please, negatively charged ions; are of shorter wave length, of less ionizing power, but of greater penetration and more numerous, less destructive of cell life, and the softer of these rays are absorbed by 1 mm. of aluminum, while the harder rays will penetrate 3 or more mm. of that metal.

These rays from radium require 2 to 3 mm. of lead to absorb them and seem to produce more biologic effect than their ionizing power on air would indicate.

These alpha and beta rays, carrying positively and negatively charged ions of varying penetration of different energy and chemical value, are in the same beam with the gamma rays; which latter seem to be an electro-magnetic impulse of extremely short wave length and very limited



Fig. 14.—Where there was destruction of cartilage.

Very briefly let us recall some facts:

The ability of a cell to reproduce is inversely proportional to its degree of specialization in function or form.

The cells of the segmenting ovum are capable of producing all the tissues of the body.

The most highly specialized cells—nerve and voluntary muscle—never, so far as we know, reproduce after they have functionally matured,

while the sex cells remain of primitive type and retain in full degree their power of reproduction.

The most distinguishing feature of the malignant cell is its primitive or embryonal type, the great rapidity of reproduction and apparently lost power to specialize.

We know that the early forms of life are extremely susceptible to irradiation.

Many men carelessly exposed to the Roentgen rays found themselves without living spermatozoa, and the ovary failed to proliferate after exposure to certain determined amounts of these rays.

The apparent selective effect of irradiation on the malignant cell is very probably due to the low resistance of a young reproducing cell; and the escape from the same influence of the specialized functioning cell is due to the fact that it is more mature; having lost its reproductivity it has become less vulnerable.

THE USE OF RAW STARCH IN THE TREATMENT OF DIABETES*

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The subject of diabetes mellitus is receiving unusual attention by the medical profession at the present time. Almost revolutionary ideas in the treatment of this disease have come to the front in the last three years, if indeed a revolution in chaos is a possible concept. For no disease has been so wobbly in its treatment as that of diabetes. Yet in a general way it was held on textbook authority that the diabetic should be denied the sugars and sugar-producing foods, allowing him the fats and proteids as a rule. Now the present treatments all require some carbohydrates, and the most recent treatment cuts the fat intake to a minimum, especially if acidosis is a complication.

The explanation of this state of affairs lies in the fact that as yet the real etiology of the disorder remains unknown, and all efforts at treatment are of necessity empirical in a high degree. Almost every organ of the body, from the pituitary of the brain to the mucosa of the rectum, has been charged with the delinquency, but as yet the real seat of the trouble has not been located with convincing evidence. Indeed, Dr. Palacios, a noted physiologist of Caracas, is confident that the real cause of diabetes lies extraneous to the body tissues entirely, and "is to be found in an *excess above normal of ammoniacal and acid fermentation of the large intestinal contents.*"¹ So long as the origin of a disease remains speculative, the treatment is bound to be empirical.

Diabetes exists in all degrees of severity. Some patients will have this form of metabolic disturbance to such a mild degree as to manifest only an occasional slight glycosuria or a mild polyuria, while at the other extreme the catalogue of afflictions that may attend is seldom equaled. The most distinctive feature is the glycosuria, but to this may be added an extreme polyuria with urine measured by the gallons; a frequent and imperative micturition that knows no respect for the proprieties of time or occasion; an unquenchable thirst; a never-ending hunger, an unsatisfied insistent craving for food; skin eruptions, boils truly Jobian in their infliction; a pruritus ani and vulvae knowing no modesty in its demands; at times a constipation that defies all efforts toward relief and again a diarrhea unabated by any procedure; an insomnia only less to be dreaded than the fatal stupor of coma ever in the mind of the informed diabetic; a mental incapacity for the most ordinary efforts; a depressing sense of inefficiency leading to a brooding melancholy, especially in those who enjoyed unusual capabilities; in the male a balanitis most annoying; in the female a pruritus most distressing; a retinitis gradually veiling the vision; a gangrene of the extremities ever creeping upward, claiming first a toe, then a foot, then a limb, a veritable dying by inches. Such is diabetes mellitus. We have all seen it. Is it any wonder that the "cures" have been many and its therapy as the grasping of the drowning at straws? More "cures," so called have been devised for this ailment than possibly for any other, and strange to say, nearly every one of them has afforded some degree of success or seeming success. However, if we analyze all of these so-called cures, I think we can discover the proverbial "grain of truth" that has bolstered the error and fed the hopes alike of doctor and patient.

That grain of truth presents two phases, one or both of which are present in every procedure which has met with any degree of success in the handling of this malady. Every such treatment has a restricted diet, or allows only slowly digested carbohydrates in some form, one or both. These, then, are the two features of every successful treatment of diabetes—namely, limited food intake and delayed carbohydrate digestion. The food restriction may go to a starvation regime, as notably advocated today in the Allen treatment to accomplish a sugar-free urine. The starvation idea, however, is not a new one, though Allen should be given the credit for first demonstrating his results by actual animal experimentation. But starvation can only kill ultimately and not cure, so within a few days at most food must be allowed, and among the first are simple proteids and green vegetables, the latter supplying the essentially slowly digestible carbohydrates.

* Read at the Fifty-Ninth Annual Meeting of the Missouri State Medical Association, Excelsior Springs, May 8-10, 1916.
1. Med. Record, March 25, 1916.

Possibly the most famed diabetic treatment and the one most in vogue to the present time, is the so-called oatmeal cure of von Noorden. But how does von Noorden "exhibit" his oatmeal, as the pharmacist would say? First, the gruel must be cooked for hours—a procedure entirely without virtue so far as any benefit to the diabetic may be expected, and indeed a detriment to the prospects of any such benefit, for this thorough cooking renders the contained starches quickly convertible to sugar by the alimentary digesting ferments. Second, it is required that the gruel be mixed with more than its own weight of butter. To 250 gm. of the cooked meal must be mixed 300 gm. of butter. This is the saving grace of the procedure and is the grain of truth to which the von Noorden successes may be attributed. What does the butter do? It so coats over the particles of starch with fat that their digestion is rendered exceedingly slow and accomplished almost entirely in the small intestine, thus fulfilling our second dictum that the carbohydrates ingested must be in such form as to insure their slow digestion.

Another highly favored procedure in the treatment of diabetes is that of Prof. Herman Strauss of Berlin, who advocates thoroughly cooked flour meal well mixed with fatty broths. In effect, this is the same as the von Noorden treatment, and its only virtue is the delayed carbohydrate digestion assured by the admixture of much fat.

Many authorities have advocated a purely vegetable diet, especially the use of green vegetables. Here, again, we find the two saving features are limited diet and slowly digestible carbohydrates of the green foods.

The potato "cure" of Mossé had quite a vogue in Russia and France. Any one who tries to live exclusively on potatoes will soon agree that it is a starvation diet, and even a diabetic might show some improvement even on such a high carbohydrate diet, for he would soon be passing up the potatoes also, thus attaining his aglycosuria through starvation. The same may be said for the exclusive milk diet advocated by some.

Inasmuch as these two points are clearly prominent in all treatments of diabetes affording any degree of success—namely, restriction of food intake and the administration of carbohydrates in slowly digestible form, why not follow a procedure with these ideas uppermost? Let us make our diabetics eat less and let us see that the little they do eat contains sufficient carbohydrate in slowly digestible form. The matter of restricting the food is simple and should be along the lines of diminished fat and proteid intake. But where shall we find the slowly digestible carbohydrate? Green vegetables have been suggested and are valuable

aside from their small carbohydrate content, and their slowly digestible form, since that they supply the bulkiness found to be so valuable a feature of food both for the lower animals and man. Any of the green vegetables may be taken, especially such as may be eaten raw, as lettuce, celery, cabbage, raw potatoes (not sweet potatoes). Also such green vegetables, as boiled greens, spinach, mustard, turnip tops, dandelions, string beans, etc. The advocates of the Allen treatment are recommending that such green foods be thrice boiled, the liquor of each boiling to be discarded, on the theory of removing as much carbohydrate as possible before ingestion. To my mind, this excessive boiling is all a mistake, and clearly so, for the reason that the carbohydrates should be retained in their slowly digestible form so far as possible, and the nearer raw the vegetables may be eaten the better.

The carbohydrate par excellence for the diabetic I have found to be raw starch. It matters not what variety of starch be utilized, provided it be raw and uncooked. Recall the structure of the uncooked starch grain. It is made up of a series of concentric layers of varying densities as revealed by the microscope. Such a structure is necessarily slow of digestion, but it is digested in the course of the 20 or more feet of intestines it must traverse if not digested. I have fed as much as 3 ounces of raw corn starch daily and the stools on subsequent examination failed to show any undigested starch.

Starch of any variety, corn, oats, beans, almonds, arrowroot, barley and wheat, may be used, but it must be taken raw by the patient. The package breakfast foods will not do, for most of them have been so highly heated in the process of their manufacture as to be practically cooked. I find that our American corn starch as ordinarily marketed in paper boxes for culinary uses is ideal for this purpose. Also washed potato starch is good. This may be prepared by stirring the grated potatoes in a large volume of water and decanting the floating pulp from the settled starch after a few minutes' standing. Or the potatoes may be eaten raw, seasoned with a little salt.

A rounding teaspoonful of the raw starch of whatever variety taken three or four times daily stirred in a glass of water is about the average quantity required, provided a fair supply of green vegetables is also taken, either as salads or boiled.

The slowly digesting starch performs another function, I have come to believe, which is of vast importance in the severe diabetes of the young, and possibly also in the less severe cases. That function is to occupy certain enzymes thrown into the intestines either from a deranged pancreas or from some other source. Palacios of Caracas thinks they are of bacterial

origin in the colon. At any rate, diastase-like enzymes may be demonstrated in the urine of severe diabetics. The presence of such diastase in the urine of dogs whose pancreases had been experimentally injured was first demonstrated by Wolgemuth and Noguchi in 1912. It was this fact which led me in the summer of 1912 to test the urine of a diabetic, then in my charge, for diastase. On obtaining a positive reaction for this amylolytic ferment, I at once began the administration of raw starch in capsules with the idea in mind of getting it to the pancreatic secretions as little digested as possible, with the hope of occupying the enzymes before their absorption into the blood and excretion from the kidneys. The results were marvelous. In three days diastase no longer appeared in the urine, sugar percentage had dropped from 7.5 to 2.6, a polyuria of 6 quarts had gone down to almost normal secretion, diastetic acid had disappeared, acetone showed merely a trace, patient was in high spirits—a marked contrast to his previous despondency. In three more days his urine showed only 0.9 per cent. sugar, and was practically normal in other respects.

This result points to a direct therapeutic action of starch in diabetes adding a medicinal value to its consideration as a food. But it must be in slowly digestible form; in other words, *uncooked*.

Briefly, my treatment of the diabetic is as follows: First place him in a hospital or sanatorium, away from the meddlesome temptations of his friends; then place him on raw starch and water only, until he has burned out all the sugar in his system and circulation. This may require from one to four days, though the glycosuria usually disappears in from twenty-four to thirty-six hours. The patient may lounge about his room as he pleases, but he must keep himself warm. A dram of starch in a glass of water every two hours is all the nutriment allowed until the urine is sugar free. Also a daily sponge and rub is ordered. By this administration of raw starch and water the patient may be taken in hand at once, without the preliminary days of preparation on a reduced diet, as recommended by the advocates of the Allen starvation course. The excessive hunger, thirst and polyuria of those preliminary days is unknown under the administration of a little raw starch at intervals of an hour or two. After all, the abnormal hunger of the diabetic is only a craving of the system for carbohydrate. This craving disappears at once when the carbohydrate is given in such form that the system can slowly use it and appreciate its presence.

As soon as the sugar is out of the urine the patient may be allowed some green vegetable,

as lettuce or celery, with a little salt and a soft egg. This allowance is gradually increased from day to day by the addition of meats and boiled vegetables, all the while with the continuation of the raw starch, though taken less frequently as the vegetables increase. However, the dram of raw starch three times daily should be continued for months and perhaps a year or more, depending on the case. All direct sugars and cooked starchy foods are prohibited indefinitely. After a patient has been sugar free for some months, an occasional indulgence in bread or toast may be allowed. Should his sugar return at any time the patient must at once drop back to only starch and water for a day or two until he is free again.

The question of diet for these patients after they have been freed of their sugar and the prominent symptoms of their disease—for I do not believe many of them are ever really cured of their diabetic tendency—is an important one. Relapses should always be guarded against because each time it is more difficult to clear up the sugar and acidosis. However, the question of diet need not be so complex as the compilers of dietetic charts would have us believe. In a general way, these tables may be illuminating, but who knows that his patient utilizes exactly the ninety-nine parts proteids exhibited in one combination and the 201 parts exhibited in another? And who can say that the proteid of beans will really serve as the equivalent of an equal amount of beef proteid when it is put up to the digestive capabilities of a diabetic stomach, or any other, for that matter? Each patient is a problem unto himself, requiring the special study of the physician in charge to determine what diet should be followed in his particular case. This need not be so complex as it at first may seem. The doctor should classify his patients according to his experience and not according to the dietetic tables of some "authority." With a food basis of raw starches and green vegetables for all, he may soon recognize those who can use normal amounts of fat and proteid in addition, and those in whom these food elements must be restricted. The diet should be as varied as possible, but always below the desires of the patient in respect to proteids, fats and fruits. Green vegetables, raw or boiled, may be allowed in normal quantities to all patients, and their use is highly necessary to keep down the acidity of the urine and to correct the tendency to acidosis in these patients. The citric fruit juices, though all containing some sugar, are especially valuable to keep down the acidity of the secretions and their use should be followed in all cases except where they are actually found to aggravate the glycosuria.

The above line of procedure has given me uniform success in all cases where persisted in

during the past three years so far as the diabetic symptoms are concerned. There have been a few relapses on the part of some ladies who could not withstand the card party cake, the boozier who would have his beer, and the dear old lady who just could not live without eating some bread. A day or two of starch and water cleared up their sugar again and the experience was a warning. Two of my earliest charity cases are reported as having died since leaving me. Doubtless they could not secure the proper care and nutrition. Two others have died, one a lad, from infected tonsils, and another, an adult, from pneumonia. All others are still living, and to my knowledge, mostly in excellent health, free of sugar and its attendant evils, with the exception of two. Those who were most seriously affected are cautioned against ever indulging in sweets, breads and cooked starchy foods, but the milder cases occasionally enjoy a dish of ice cream, or some bread or toast or even a roast potato with impunity, but they are strictly warned to make the indulgence very occasional.

In my experience the most difficult complication to contend with is nephritis. Persons so affected require the longest time to clear up the sugar, and they are the most difficult to keep clear. Other complications usually disappear promptly with the sugar, such as pruritus, boils, balanitis, constipation, diarrhea, insomnia, excessive and frequent micturition, thirst, severe hunger, stupor, melancholy, mental lethargy and even gangrenous sloughing is arrested, all in the remarkably short time of from one to three or four days.

I would therefore commend, as the most rational and promising treatment of diabetes mellitus, a restriction in diet of proteids and fats, a prohibition of all sugars and cooked starchy foods, but a liberal intake of slowly digestible carbohydrates as afforded in the raw starches, supplemented with green vegetables, also raw, or as little cooked as possible.

DISCUSSION

DR. L. T. DUNAWAY, Eldorado Springs: I have had some twelve or fifteen cases of diabetes during the last year, all in people above 45 years of age, and in every one of them I found that they had gum disease, probably pyorrhea. I did not make any microscopic examination. In every case there was marked benefit, the sugar disappeared from the urine of all in a very short time after the teeth were pulled. One lady under 40 had a diseased knee and she got diabetes while the knee was sore. I am sorry to say that in her case we did not get the result that we did in the others. Then there was one lady in the late stage of the disease. But all whom we got to in any time at all, and pulled out the teeth, got well, in twelve or fifteen cases.

DR. E. B. KNERR, Kansas City, closing: I will add just a few instances, if I may. I had a list of case reports to give, but the time is up. I would merely recite a few cases, two or three only, to illustrate some of these attendant disorders.

One, notably, a gentleman who had a very extensive business. He became involved in a law suit. On the witness stand, he broke down completely, and his attorney saw his case going glimmering. The attorney in some manner accomplished a stay of proceedings and got the gentleman to my care,—had to bring him almost by bodily force. This man had discharged his chauffeur, given up his automobile, everything; had thrown up his hands, was going to quit. The attorney brought him to me and asked me to take care of his case at once, that it was highly important—the case was to be renewed in court, and it was necessary to get him through. So between us, the attorney, myself, and a prospective son-in-law, we got this man, after persistent begging, to give me a sample of his urine. On examination, I found he had about 5 per cent. sugar. I showed him the results of the examination. That awakened his interest, but his mind was apparently all gone and he was deeply melancholic. I persuaded the young man who had him in charge, to follow my instructions exactly for twenty-four hours, and bring him back the following day. The sugar had dropped perceptibly. That gave the patient courage at once. The third day he came back, and the sugar was practically gone. I had allowed him only a little starch and water four or five times daily. His excessive hunger and thirst were gone, as well as his nightly micturition, and his former mental alertness was back in three days' time. And he subsequently won in court.

Another case was that of a lady who was troubled with a persistent itching. She had been very active and one of the things that she did not wish to give up was her household work. I told her there would be no need to give it up if she would follow the treatment prescribed. In three days we had her sugar cleared away. Her interest in her household affairs at once returned and the itching disappeared.

A third case, a gentleman who was troubled with a balanitis and phimosis, a very distressing condition. On this same procedure by the third day the balanitis had practically subsided. Get the poison, the sugar excess out of the blood by allowing the system to burn it up, and these disorders disappear.

Another case was a lady who had been treated a number of times for her diabetic condition. It would clear up, but it would come back. She said, "Oh, Doctor, it is no use, it will come back." I told her if she would follow this treatment and diet it would not come back, and she consented then to try. In thirty-six hours her sugar was all gone. She was a lady of 56 years. She gave a history of gall-bladder trouble and in a few weeks suffered a severe recurrence of symptoms calling for operation. Several large stones were removed, and the patient went on to prompt and uneventful recovery. Her surgical wounds healed very promptly, without the delay common to diabetic subjects.

CARDIAC ARRHYTHMIAS*

NOTE.—This article is largely compiled and contains quotations from an article written by Thomas F. Reilly, published in the *International Clinics*.

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A study of the various forms and causes of cardiac arrhythmia is a complex subject, and it is quite a difficult task in many cases to ascertain the underlying cause of the various irreg-

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ularities of the heart. But it should be of interest and of practical value to the physician to endeavor to determine as far as he can the abnormal conditions, prognostic significance, and therapeutic indications of the varied symptomatology presented by the different forms of arrhythmic heart action.

We are told that arrhythmia of the heart may accompany a variety of organic disorders of the heart and arteries, chiefly myocarditis, dilatation, and arteriosclerosis; or it may be due to some organic lesion of the brain or nervous system; or the result of intoxication by alcohol, tobacco, coffee, or other narcotics. It may also be due to the effect of the toxins of the infectious diseases of typhoid fever, diphtheria, etc., or of the poisons of uremia, or disturbance of the intestinal tract.

The most distinct and most common disturbance of the heart is the loss of a pulse beat, which is distinguished as an intermittance. It may be well to remember that an intermittance of the pulse may be real or false—that is, it may be an expression of a feeble or insufficient ventricular contraction or of a real ventricular halt. It is in one sense a frustrated action of the ventricles. A real ventricular halt is a form of disturbance of the heart rhythm which is manifested quite frequently in the very first stage of heart weakness in middle life or in more advanced age. It may, however, occur in a perfectly healthy heart under purely nervous disturbance. This form of cardiac arrhythmia therefore has of itself no really definite meaning in prognosis.

In cases where the intermittance is false or incomplete, where strong and weak beats alternate regularly with each other, the condition is distinguished as *pulsus alternans*. Two strong beats in quick succession followed by a longer pause constitute what is called the *pulsus bigeminus*. Three quick strokes followed by a longer pause constitute the *pulsus trigeminus*. Again, when in addition to irregularity, the heart's action is tumultuous, the condition is called *delirium cordis*; and still further when the heart besides being arrhythmic is rapid and weak, and shows in its contractions only a series of vibrations, the condition is called *delirium* or *tremor cordis*.

The prognosis of these different forms of arrhythmia depends entirely on the cause, or their pathology. Most of the arrhythmias of young people have no special significance. Aside from the cause, an important point to remember is that the gravity of an individual case depends upon the fact whether or not the arrhythmia interferes with the blood supply to the heart. Any arrhythmia which attends or results from insufficiency of the heart from whatever cause is always an index of gravity. An arrhythmia which disappears on bodily

effort or exercise may be of little significance, but on the other hand an arrhythmia which occurs on slight bodily effort as by merely rising to the sitting or standing posture or by a walk about the room indicates an insufficient response to the appeal of the heart for a greater blood supply and may be an early sign of heart failure.

We will let these facts suffice in a general way as an introduction to our subject, and perhaps be the means of enabling us to comprehend more readily a presentation of several particular forms of cardiac arrhythmia which is really the true purpose of our paper.

We desire to present to you in as simple, clear, and practical manner as we can the physiology, pathology, prognostic significance, and therapeutic indications of several important forms of cardiac arrhythmia, perhaps not clearly understood by physicians generally. First we wish to say "that in recent years the importance of arrhythmia has so far advanced our knowledge of cardiac pathology that it has to a large extent supplanted the significance of the importance that was formerly attached to heart murmurs. The dictum of the present is that heart muscle counts for more than heart valves and that the heart rhythm is of far more import than the heart murmur."

A knowledge of the physiology of the causation of the normal heart beats is necessary to understand several of the common forms of arrhythmia which we wish to discuss. While we all understand that the heart is under the control of the pneumogastric and sympathetic nerves, yet we must remember that normally the rhythmic action of the heart is due to an automatism of the heart muscle itself, and not to an automatic action of any nerve apparatus connected with it, or perhaps more correctly stated, not by any impulse sent to it at regular intervals from any nerve center. The stimulus to contraction therefore lies in the intrinsic properties of the cardiac muscle fiber itself, that is, the normal regular action of the heart is a muscular automatic rhythmicity and not a rhythmicity which is controlled by any nerve center. We are taught that the normal rhythmic action of the heart begins in the auricles at the orifices of the emptying veins, and that the normal notice or message to the heart to contract originates in what is called the sino-auricular node—a bit of tissue at the base of the heart near the entrance of the vena cava, which node is called the Tawara node. From this node the stimulus is propagated simultaneously to the auricles initiating their co-ordinated contractions. From the auricles the conduction path is through the bundle of His by means of the fibers along the septal wall to the apex directly to the papillary muscles which contract first, then to the ventricular musculature which

begins its contraction at the apex, spreading to the base. Normally this is the physiology of a rhythmic action of the heart. We find, however, that the muscular structure of the heart possesses a peculiar irritability not common to other muscular tissue and because of this peculiarity a wave of cardiac contraction may originate anywhere in the cardiac muscle which gives rise to extra contractions. This we will explain more clearly later. "Under ordinary normal conditions we must remember that the sino-auricular node sends out waves of contraction at the rate of from sixty to seventy per minute, depending on the individual and these are as regularly spaced as the ticks of a clock."

We have all noticed no doubt when we put our fingers on the pulse of some children or listen with the stethoscope to the apex, we will find that the rate varies. There may be a few quick beats and a few slower ones, and sometimes we may notice a rather long interval that we may interpret as an intermission. Nearly all children exhibit this arrhythmia at times, and in some adults it is occasionally present. The contraction starts normally at the sinus node, but the messages for contraction are sent out from the node at irregular intervals. The contractions are normal, but as to time they occur irregularly. As this form of arrhythmia originates in the sino-auricular node it is called sinus arrhythmia. A sinus arrhythmia means a healthy heart. We will find in these cases that anything which makes the heart beat faster than 100 per minute causes this form of arrhythmia to disappear. It also stops while the patient holds his breath. Serious irregularities of the heart are made worse by exercise. In sinus arrhythmia the heart muscle is intact, but the normal impulse from the Tawara or sino-auricular node for the contraction of the heart is sent out at irregular intervals. This form of cardiac arrhythmia is therefore simply a physiologic irregularity and not a pathologic phenomena. Sinus irregularity if not recognized as a harmless irregularity by the physician or the patient will sometimes entail invalidism. Some one has said that the only import of this irregularity of the heart is the danger to the patient of having some one discover it who does not know what it means and who gives a gloomy prognosis.

Another interesting form of arrhythmia is due to the peculiarity possessed by the heart muscle of an inherent power in the muscle itself to create an impulse to contraction in other parts of the heart muscle aside from the Tawara node, especially if the irritability of the heart muscle be increased.

We should remember that in normal rhythmic heart beats the impulse for contraction

always originates from the sinus-node and starts at regular fixed intervals. In the cases to which we now refer the normal impulse for contraction starts as usual from the sinus node, but this normal contraction is scarcely well started on its way when another portion of the heart muscle becomes excited and starts a second contraction within itself. This second contraction originating in the muscular walls of the heart rapidly pursues the normal ventricular contraction and gives rise to an extra contraction of the heart which is called an extra-systole, or premature contraction. This extra-systole occurs in about one-half of the time usually occupied by a single beat. The cause of the premature contraction is primarily due to the fact that the function of excitability which is common to all cardiac muscle is increased in these patients' hearts. "In these cases of extra-systole we hear the sounds lub, dub, tut tut. The tut tut represents the extra contraction. This form of cardiac arrhythmia is the one that frequently causes much trouble both to the physician and layman."

All of us as physicians have no doubt frequently heard patients say that they feel at times as if their heart stops beating or that it turned over. This form of arrhythmia occurs in a very large proportion of adults over 60 years of age. It is quite commonly found in old people. It is especially noticeable after large meals; coffee drinking, or tobacco smoking may make it evident. While extra systolic arrhythmia does likely occur more frequently in diseased hearts than in normal hearts, yet the trend of present belief is that these premature contractions in the largest per cent. of cases have no evil significance.

On examining a heart subject to premature contractions if we find no other evidence of disease, and no other circulatory disturbance, the prognosis should be good as this form of arrhythmia is considered about as harmless as sinus arrhythmia. These are the cases, however, which frequently affect the mentality of the patient and keep them in constant fear. Many of these cases are constantly feeling their pulse and are fully convinced in their own mind that they are suffering from some serious heart trouble. These are cases also which are frequently rejected by life insurance companies. In diagnosing these cases the patient may tell us that their heart stops beating, or it feels at times as if it turned over. They may complain of a sense of suffocation rising from the throat to the chest, some may call it palpitation. "Listen for the lub, dub, tut tut, and if all other evidences of disease of the circulatory system are absent you can make the diagnosis. Digitalis and heart tonics all make these cases worse. In these cases of extra-systolic arrhythmia the nervines have all made reputations as curative

agents for heart disease. Bromids do better than anything else in affording relief in pure extra-systolic arrhythmias."

"Another very important form of cardiac arrhythmia is where there is a mixture of all strengths and lengths of pulse beats mingled without the slightest possible evidence of law or order. There may be two or three rapid beats, an interval, then perhaps there may be half a dozen beats of varying size, then again one or two strong beats. The heart sounds vary in intensity and regularity. In this form of arrhythmia the auricle is in a state of tremor, constant twitching as it were. Little waves of contraction are rolling over it at the rate of 100 to 200 per minute, and there is no full contraction, the auricle being persistently in diastole, and the fluttering tremor, or slight contractions are constantly crossing it at a rapid rate." The fibrillating tremor is said to be due to the fact that the individual fibers instead of contracting in a regular and simultaneous manner, contract very slightly and rapidly and independently of one another. In auricular fibrillation the pulse is usually not below 100 and may be twice that rapid. When the rate is continuously as high as 120 or more per minute unless it can be controlled the patient is in danger. In these cases there is a marked difference between the count of the pulse and that of the apex beat, as many of the slight contractions cannot be felt at the wrist. When this form of arrhythmia is well established in a patient, they are always on the brink of a precipice and any serious illness usually results fatally, and they may die almost at any time. This arrhythmia may be well called a delirium tremor arrhythmia. In auricular fibrillation, digitalis is the specific remedy with rest and proper diet.

Another form of arrhythmia which is rare is called auricular flutter. It occurs almost entirely in the aged and resembles the tachycardia, as the rate of the pulse may be from 130 to 170. It might be called continuous tachycardia. This form of arrhythmia is one of the causes occasionally of wrong diagnosis as to the approach of death because the patient often seems to be dying yet recovery may take place.

The true pulsus alternans, another important form of arrhythmia which we have mentioned, is quite frequently met. It is an alternate large and alternate small beat. It is frequently present in dying patients and when it can be easily recognized by the finger is an almost positive sign of approaching death.

There still remain other forms of cardiac arrhythmia which we have not time to consider aside from the sinus arrhythmia, extra-systoles, auricular fibrillation, auricular flutter and pulsus alternans which we have described.

"In recapitulating we should remember that nearly all the irregularities of the cardiac action

in children are sinus arrhythmias and are harmless. It is also said that 60 per cent. of the arrhythmias of adults are extra-systolic and are also harmless. Auricular fibrillation is the most serious arrhythmia we have mentioned with the exception of pulsus alternans, which when well marked is prognostic of approaching death."

As we were interested in the presentation of this subject by Dr. Reilly, we believed a presentation of a synopsis of some of the forms of arrhythmia as presented by him would be of interest and practical benefit to the members of our society.

ROSEOLA INFANTUM, OR RUBELLA?.*

JOHN ZAHORSKY, M.D.

ST. LOUIS

About ten years ago I became very much interested in a peculiar symptom-complex which differed somewhat from anything found in the textbooks.

The little patient was a girl, 15 months old, the only child of healthy parents, who had been practically isolated from other children since birth. The symptoms were a marked febrile movement, associated with extreme restlessness. There were no other symptoms.

I was very desirous of making a diagnosis promptly and for four days I exhausted all diagnostic resources. The stools, the urine, the blood were examined carefully. The infant was inspected, palpated, percussed, and auscultated until it seemed ridiculous to make any further examination. The urine was examined for pus, the blood for malaria, the ear-drums for otitis, the throat for infections anginas, but nowhere could any clue of the trouble be discovered. Meanwhile the anxious parents kept plying questions as to the diagnosis, expressing all kinds of fears, suggesting consultations, and giving hints as to the necessity of changing the attending physician. On the fourth day the temperature dropped to normal and on the same day a morbilliform rash appeared, and the diagnosis of German measles quieted the parents.

But this presumptive diagnosis gave me no satisfaction, since the previous year we had had an epidemic of rubella in St. Louis and I had seen numerous cases. The disease went through the nurseries of the Bethesda Foundling Home, and not a single case could be recalled in which there was such a long and severe prodromal fever and such a striking crisis preceding the eruption.

This syndrome remained clearly in my mind and in the succeeding years numerous cases of this kind presented themselves.

* Read before the St. Louis Medical Society, Oct. 23, 1915.

The patient is almost always an infant under 2½ years of age. Only two cases in older children were observed, while over 100 cases were seen in infants in the last ten years. During the last six years brief notes of 70 cases were made. The youngest of these was only 6 weeks old. All but three were artificially-fed infants.

The onset of the disease is sudden, generally with a temperature of 103° or more. It is an irregular temperature, ranging from 100 to 105°. In two cases the onset was marked by an eclamptic seizure. The fever continues from three to five days and drops by crisis. Following this drop in temperature, sometimes several hours after the disappearance of the fever, the morbilliform rash appears, on the face, neck and chest. The lesions may be limited to a dozen, the macules may be so profuse as to cover almost the entire body. There are no complications nor sequelæ.

The disease is not contagious. In not a single instance could the eruptive disease be traced to another person with a similar disease.

When I became acquainted with the frequency of this disease, the literature was studied. It was found that a description of such a symptom-complex had been made more than half a century ago, under the name *roseola infantilis*. In these descriptions, however, there was no clear discrimination between rubella and numerous non-febrile erythemata, which often occurs in infants. When the erythema group of skin diseases had been clearly differentiated from the exanthemata, there did not seem to be any reason for retaining the term *roseola*, and American pediatricists generally dropped the name *roseola* on the advice of Dr. Hardaway in Keating's Encyclopedia.

After studying the appearance of this disease for several years, I wrote a brief article on the subject, which was published in *Pediatrics* (January, 1910). I felt convinced that dermatologists do not see these cases, and the disease deserves a place outside of the erythema group of skin diseases.

Two years ago I reported 30 additional cases before the Section on Diseases of Children of the A. M. A. (*Journal A. M. A.*, 1914). Since then about 35 cases have been studied.

In the discussion of this paper before the Section, a few pediatricists seemed to favor my view of the subject, others insisted that the disease described was German measles (*rubella*) and nothing else.

It is my purpose here to point out the clinical differences between *roseola* and *rubella*, and thus emphasize the theory that they are distinct diseases. In the first place, *rubella* is an epidemic disease, occurring widespread at long and irregular intervals. *Roseola* is present all

the time, although it is most prevalent in the late summer, fall and early winter. During the last five years there has been no epidemic of *rubella* in St. Louis.

Rubella is a contagious disease, while no evidence of contagiousness has been found in the study of my series of cases. No two cases have occurred in the same family. Not in a single instance has one case been traced to another. Sporadic outbreaks occur in the most isolated places.

Rubella attacks children of all ages, even adults. *Roseola infantum* is a disease which attacks infants almost exclusively.

Rubella is characterized by a very short stage of invasion (a few hours to one day); while the long and usually severe stage of invasion is what makes *roseola* of such clinical importance. This long prodromal stage is always present and without it a diagnosis of *roseola* is scarcely possible.

Another marked clinical difference between the two diseases is the striking fall in the temperature at the appearance of the eruption in *roseola*, a phenomenon which does not occur in *rubella*.

There is no great difference in the appearance of the eruption. As a rule the number of lesions in *roseola* are much fewer, but these vary so much in different cases that no diagnostic rule can be formulated.

The glandular enlargement in *rubella* is much more pronounced, and is often a very noticeable phenomenon. In *roseola* the glandular enlargement can only be recognized by careful palpation.

These differences in the incidence, course, and symptomatology of these diseases are so clear that the theory that these cases belong to the *rubella*-group of eruptive diseases can only be maintained by demonstrating that *rubella* is usually an endemic sporadic disease and only occasionally assumes epidemic virulence, and that the clinical course and incidence is different in the sporadic and epidemic type of disease. Until the causative agent of *rubella* has been isolated, it is manifestly impossible to prove such a theory.

Why may we not classify *roseola* among the toxic erythemata?

Many practitioners, no doubt, having made a diagnosis of gastroenteric intoxication during the prodromal stage, will undoubtedly favor this view. There are, however, certain clinical peculiarities which tend to weaken the theory that this eruption has its origin in the alimentary canal. It is true that nearly all cases have occurred in infants artificially-fed, but only in a few cases was any disturbance of the digestive apparatus observed. Then no particular form of feeding has been constantly present, although

some form of cows' milk formed the principal part of the diet. It can not, as yet, be positively maintained that some toxic body in cows' milk is not the causative virus in these cases.

When we compare the symptomatology of the known toxic erythemata with that of roseola there is little parallelism. The erythemata are characterized by no prodromal symptoms, or these are so short and irregular as to be of no importance. Febrile movement is usually absent or occurs only at the onset and height of the disease. Then compare the irregular distribution of the lesions, and the irregular course of the disease with the definite eruption of roseola and the striking uniformity in its clinical course, and it will be difficult for the practitioner to adopt the theory that roseola is only an infantile form of toxic or idiopathic erythema.

To me the disease, which I have called roseola infantum, has so many striking peculiarities that it seems most rational to place it among the exanthemata and not the erythemata. It resembles rather the course of an infectious disease. There may be some virus to which most infants are exposed (in the food, for example), and to which they become immune during infancy. This would account for its rarity in later childhood.

However, it would be premature to assert dogmatically that roseola is a disease *sui generis*—that it is an unrecognized specific and unclassified disease. The plea is here made that it is an interesting symptom-complex, occurring frequently in infants and should be recognized by practitioners. As its course and symptomatology are so definite, a name should be given. I have chosen the name roseola infantum, not infantile roseola, the rose-rash of infants. This name does not mislead and when generally recognized will serve to fix our attention on an interesting group of symptoms. Especially do I protest at calling these cases rubella, since this is a contagious disease, which must be reported to the health officer, while roseola is not contagious and quarantine would be unjust.

DISCUSSION

DR. JOSEPH GRINDON: Dr. Zahorsky has told us that these cases were ordinarily under 3 years of age. Will he specify a little more and tell us what proportion of the cases, if any, occur among new-born infants within the first week or two of life? Did the roseolar spots tend in any large proportion of cases to run together into scarlatiniform patches?

DR. JOHN ZAHORSKY: In reply to the first question of Dr. Grindon, the proportion in young and in older children, in my first paper I stated that the disease always occurred in children over 6 months, but I have since seen it in a child of 6 weeks, a typical syndrome. This disease is not found in young babies and has nothing to do with the various skin eruptions, erythemas and even the morbilliform eruptions in the new-born.

Do the spots run together? Not as a rule. They are distinctly discrete, elliptical or most commonly circular spots about the size of an ordinary measles rash—that is, about the size of a hemp seed. However, when profuse there will occasionally be some coalescence of some of the lesions, but we do not find these irregular, large bodies of confluent patches that we have sometimes in German measles, especially over the buttocks. The discreteness of the lesions is very diagnostic. There may be only a few, only four or five of them, looking practically the same as the lesions of typhoid fever, possibly a little more distinct and just a little larger than the rose spots of typhoid fever. In fact, one of my cases—a boy of 7 or 8 years of age—had the same fever for four days and I was making all kinds of tests. He had a high fever, ached all over, and I think had it five days instead of four. On the fifth day some spots appeared on his abdomen and I made the diagnosis of probable typhoid and sent the blood to the bacteriologist. The next morning he had about fifty or sixty spots on his body and the temperature was normal; my typhoid fever diagnosis was wrong and the Widal was negative.

Practically all have occurred in artificially fed children. Only two of my cases were in breast fed children and even in them I think perhaps some little addition to the food was given. I rather think they do not occur in the purely breast fed children.

Is there any throat rash? Yes, there is frequently increased redness, but no erythema that I could make out. I have seen but a slight exudate on the tonsil. There are some throat and some nasopharyngeal disturbances before the eruption. You may have a little sore throat, a minute exudate and high fever. But in a child that has a temperature of 104° for two days and only a slightly sore throat with one or two minute white spots, and a tonsillar exudate, we may suspect roseola.

The glands of the neck are swollen and also the axillary glands; not only the glands that come from the throat, the ordinary glands at the angle of the neck, but the glands at the back of the neck that receive the drainage from the scalp, and also the inguinal, the axillary, and all the superficial glands that you can palpate.

I do not think the eliminative treatment does any good because several of these cases had been given eliminative treatment. A doctor is called to see these cases, they sometimes have a spasm, and he is apt to assume that the intestinal system is at fault and the eliminative treatment is given: doses of calomel, castor oil. That brings down the temperature, of course, maybe for hours. A rectal injection, a good purgative also, will do that, but the fever will go up again and the rash appear.

All sorts of drugs have been used to see what effect they would have, but in recent years I have stopped all medication if I suspect the disease, in order to see if it could possibly be some drug eruption. It is not a drug eruption. The eruption lasts only two days usually. It fades very quickly.

I bring this again to your attention, because I want the practitioners to watch for these cases. If you do not find anything else, if you have carefully examined the patient so as to exclude a beginning pneumonia or any other disease of a serious nature, and you find these slight, gradually enlarging glands, you can often make a diagnosis early. So I make a plea for the diagnosis of these cases and also for this name at present. I think it ought to have a distinct name, although we might find later that it is a peculiar, sporadic German measles; but at present it should not be regarded as such.

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THE IMPORTANCE OF EYE GROUND FINDINGS IN THE DIAGNOSIS AND PROGNOSIS OF BRIGHT'S DISEASE *

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When the fundus of the eye is examined with the ophthalmoscope there is exposed to view the termination of a nerve close to the brain, and a terminal branch of an artery and its corresponding vein. As these delicate structures are often profoundly affected by certain diseases of the general system, it naturally follows that an examination of the eye ground may be of great diagnostic value, and may in fact give the first hint of mischief at some distant point. The most common and significant changes in the eye observed by the ophthalmologist are those occurring in renal disease and commonly described by the term "albuminuric retinitis."

Etiology.—Retinal changes are observed in all forms of renal disease; granular kidney, large white kidney following an acute attack, lardaceous kidney, occasionally in acute nephritis following specific fevers and frequently with the albuminuria of pregnancy. They are by far the most common in the granular form and then only after the disease is of considerable duration. Both eyes are almost invariably affected.

Widal, Morax and Weil have studied 71 cases of renal retinitis and in all found more or less marked nitrogenous retention. In two cases in which the authors were able to observe the onset of retinitis, this coincided with the beginning of retention of urea. They regard albuminuric retinitis as being really, at least in most cases, a ureic retinitis; and they believe that the association of the two conditions explains the extreme gravity of prognosis assigned to the ocular lesion. In retinal lesion of doubtful character the determination in the serum of ureic retention may establish both diagnosis and prognosis.

Frequency of Retinal Changes.—Eales in 100 cases of chronic disease found retinal changes in 28, or 1 in 3½. Posey bringing together the cases collected by Gronouw and Litten finds 209 cases of retinal disease among 939 cases of disease of the kidney, or 22 per cent. Bulson claims eye lesions are found in 40 or 50 per cent. of all cases of nephritis. Most cases occur after forty. These variations in frequency are probably due mainly to the fact that the retinal changes appear only after the kidney disease has lasted for some time and when hypertrophy of the heart shows the profound effect of the disease on the system.

Symptoms.—The development of chronic nephritis is so slow that it is usually far ad-

vanced before any symptoms arise indicating the nature of the disease. In fact there may be no symptoms referable to the kidneys. Dimness of vision may be the first sign; or cerebral hemorrhage may cause death and the autopsy reveal contracted kidneys. When a patient suffers from persistent headaches, giddiness, shortness of breath, indigestion, high blood pressure, frequent passing of urine, especially at night, it is advisable to examine the urine and make an ophthalmoscopic examination. In many cases the amount of albumen is not large at any time, producing but a faint cloudiness and requiring the utmost nicety of observation to detect it.

Retinal Changes.—The retinal changes which occur in renal diseases are: (1) white spots and patches of various sizes; (2) hemorrhages; (3) slight swelling and diffuse opacity of the retina; (4) inflammation of the intra-ocular end of the optic nerve. These elements are variously combined in different cases, but the features of most diagnostic value are hemorrhages and the white spots and patches. The white patches are usually found in the neighborhood of the optic disk or at some little distance from it. At first they are soft edged and rounded and as they get larger become irregular and may coalesce into large white areas surrounding the disk. At a later stage small intensely white spots, dots and lines make their appearance arranged as a radiating figure around the macula lutea. Sometimes the circle of dots is not complete, but is fan shaped. While these changes in the macula are often conspicuous, they may be so minute as to be only visible on careful examination by the direct method. There is a tendency of the soft looking patches to alter from day to day, or even to fade away under treatment, but the star shaped figure in the macula region, due to degeneration, rarely disappears. Hemorrhages scattered here and there over the fundus is another striking feature of albuminuric retinitis. For the most part they lie in the nerve fiber layer and are flame shaped or present a striated appearance. When small they often follow the course of the blood vessels, but it is rarely possible to determine the vessel from which the hemorrhage comes. Round or irregular shaped splotches of blood are due to hemorrhage in the deeper layers of the retina.

Inflammation.—In the majority of cases the white patches and hemorrhages appear without signs of inflammation. But when the effect of the renal disease on the system is intense we are apt to find diffuse opacity and more or less swelling of the retina, associated with optic neuritis. The edges of the optic disk are obscured, the retinal vessels are more or less concealed in the swelling, the veins are dis-

* Read before the St. Louis Medical Society, March 25, 1916.

tended and tortuous and the arteries narrowed. Conspicuous white lines are often seen bordering the vessels, and in complete sclerosis, the vessels may appear as white cords. Indeed, in these hopeless cases of renal disease the picture presented may be almost the same as is observed in intra-cranial disease.



Fig. 1. Case V.

Pathology.—Strictly speaking, albuminuric retinitis is not an inflammation, but is the result of sclerosis of the retinal vessels. The vascular sclerosis is due to some toxic substance, probably urea, circulating in the blood. As a result of this sclerosis there is an increase of the connective and elastic tissue in the vessel walls and the lumen of the vessel is narrowed. This leads to increased blood pressure and the transudation of a highly albuminous exudate. It is this exudate which is responsible for the white patches and the star shaped figure in the macula region.

Prognosis.—In acute nephritis which clears up entirely or when the retinal changes are associated with the albuminuria of pregnancy the prognosis as to life is favorable. In chronic renal disease the retinal changes indicate a very unfavorable prognosis, and a large majority of the patients die in one or two years. In 42 cases reported by Nettleship 25 died within the first year and only 9 survived more than two years. In making a prognosis Weill is guided by the amount of retained urea in the blood. Of 14 cases in which the retained urea was less than 1 gm., 10 were followed to the end, the first dying in fifteen months and the last in twenty-two months. Of 4 cases in which the retained urea was between 1 and 2 gm. all died between three and seven months. In 3 cases in which the urea amounted to more than 2 gm. death occurred in five days, three months and eight months. Of 9 cases which I report here, 1 died in four months, 2 died in

five months, 1 died in six months, 1 died in two years and six months, 1 died in two years and seven months, 1 case cannot be traced and 2 cases seen within recent months are still living.

CASE 1.—Mr. W., aged 44, weight 200 pounds, applied for life insurance in 1905, but was rejected because of albumin in urine. I examined his eyes at the time, but found no retinal changes. In October, 1906, he accidentally discovered that the sight of the left eye was much impaired and came to me for another examination. I found retinal changes in both eyes. In the macula lutea was the characteristic white dots arranged in a fan-shaped figure, and scattered about were numerous flame-shaped hemorrhages. There was slight edema of the retina and the retinal veins were enlarged. This patient died six months after I observed the retinal changes.

CASE 2.—Mr. J. R., aged 60, weight 150 pounds, first seen Oct. 29, 1907, for failing vision. Both eyes showed retinal changes. Large white, soft edged patch below the optic disk. At the macula, and above it were numerous white dots and spots and quite a number of flame-shaped hemorrhages which follow the course of the blood vessels. The optic disk is of a grayish-red color, the retinal veins enlarged and the arteries narrowed. The amount of albumin in the urine was small. His breath had the characteristic uric odor. The patient died four months after the retinal changes were observed. Diagnosis: interstitial nephritis.

CASE 3.—Mrs. K., aged 55, first seen Aug. 8, 1905. Seemingly in excellent health and complaining of no symptoms other than failing vision. Three months ago while reading the paper, suddenly everything looked green and dark. Numerous white spots and patches in the macula region, and scattered hemorrhages, both fresh and old. No signs of inflammation

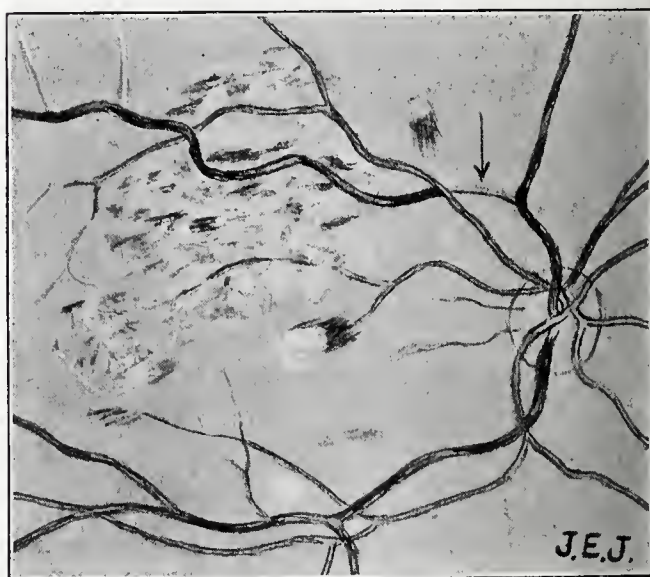


Fig. 2. Case VII

of the retina and the outlines of the disk are distinct. She was referred to her physician who reported a considerable quantity of albumin in the urine, with hyaline casts. This patient died five months after these retinal changes were observed.

CASE 4.—Mrs. M., aged 60, first consulted me July 19, 1907, for an infected corneal ulcer of the left eye. She stated that while bending over to take a piece of meat out of the refrigerator the end of

the meat bone scratched the cornea. The ulcer spread rapidly and despite all treatment the whole cornea melted away and the eye-ball had to be enucleated. I have often speculated whether Bright's disease had anything to do with the rapid spread of the ulcer. In January, 1908, she had an attack of grip, with acute nephritis, but it was not until the following September that failing vision caused an examination of the eye to be made. In this case, along with the

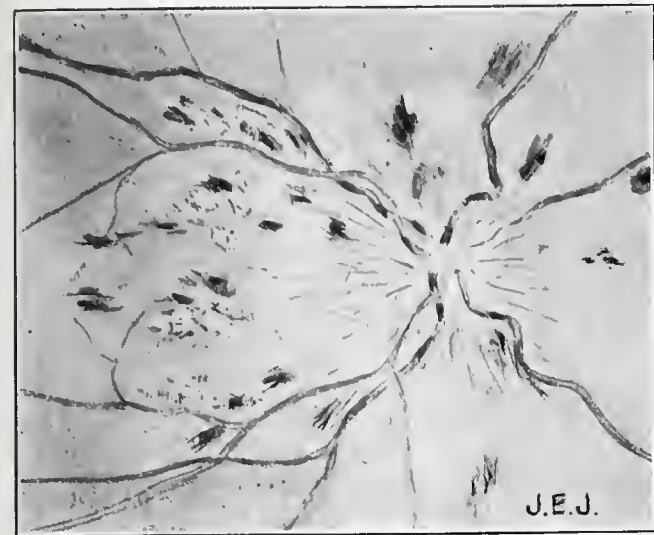


Fig. 3. Case VIII

white spots and patches and flame-shaped hemorrhages scattered over the macula region, is a well-marked optic neuritis. The outlines of the nerve head are obscured by the swelling. Despite the bad outlook the patient improved under treatment and lived for two and one-half years after the retinal changes were first observed. A few months before death she developed ptosis and paralysis of the internal, superior, and inferior rectimuscles.

CASE 5.—H. A. S., aged 41, large, well built, apparently robust man weighing probably 200 pounds, consulted me Jan. 9, 1911, with the statement that for a week past he was only able to read the headlines of the paper. The picture shown is the fundus of the right eye. Notice the very conspicuous intensely white fan-shaped figure at the macula, also the very large hemorrhages and the severe optic neuritis. He was referred to his physician, Dr. Boisliniere, who reported a trace of albumin and hyaline casts. This patient left the city shortly afterward and I am unable to give his subsequent history.

CASE 6.—Dr. B., aged 50, weight 175 pounds, apparently in good health, consulted me in July, 1910, on account of failing eyesight. The condition of the eye ground of the left eye is the most typical picture of albuminuric retinitis I have to show. There are the soft-edged white patches, the classic star-shaped figure in the macula, the numerous hemorrhages and the beginning optic neuritis. This patient died five months later of interstitial nephritis, and yet after the ophthalmoscope revealed the nature and gravity of his disease, it was only after repeated examinations that a trace of albumin was found in his urine.

CASE 7.—Mr. F. M., aged 44, weight 180 pounds, gives a history of nephritis for two years. He consulted me Jan. 6, 1916, for failing vision. When tested the vision of the right eye was 6/60, vision of the left eye was 6/6, or normal, and what is most unusual, there were practically no retinal changes in the left eye. The picture on the screen is of the right eye and is especially interesting as showing complete sclerosis of several branches of the superior

temporal vein. Instead of a red column of blood you will observe three white cords. Sclerosis is also present in the finer branches of the vessels just beyond the macula which appear as fine white branching lines. Another interesting feature is observed at the crossing of the superior temporal artery and vein. The pressure of the artery on the vein stops the venous flow from that point until it joins the main descending trunk (see arrow, Fig. 2). Above the macula there is an unusually large white patch with scattered hemorrhages. This patient, at the end of three months, seems to be holding his own.

CASE 8.—D. G., aged 56, weight 200 pounds, of full habit, had an attack of grip in December, 1915, but went to work too soon and had a relapse with acute nephritis—probably grafted upon the chronic form. The picture represents the eyeground of the right eye. The albuminuric retinitis shown is of the inflammatory type with marked edema of the retina and a severe type of optic neuritis. I think the white patches in the macula region represent the underlying chronic nephritis. Under favorable circumstances, with the disappearance of the acute nephritis, the edema of the retina and the neuritis subsides, but in most cases of this kind the prognosis is very grave and the patient dies within a few weeks. This picture resembles greatly the choked disk and edema of the retina caused by tumor of the brain.

CASE 9.—Mr. W. T. W., aged 59, weight 219 pounds, living in the country, blood pressure 204, consulted me Oct. 8, 1912, on account of defective sight in the right eye. Vision 5/20 in left and 5/5 or normal. The eye ground shows a typical picture of the chronic type of interstitial nephritis, a few hemorrhages and white spots appear in the macula region with no other signs of inflammation. I wrote to his physician asking him to make a careful examination of the urine as I thought from the appearance of the eyeground that he had kidney disease. An examination was



Fig. 4. Case IX

made and the physician stated that there was nothing the matter with the kidneys. I asked him to make another test but he replied as before. I then examined the urine myself and found albumin and casts. He was placed on a rigid diet (he had a large appetite) and he responded nicely to treatment. His weight was reduced from 219 to 194 pounds, and blood pressure from 204 to 175. He died in May, 1915, two years and seven months after the retinal changes were first observed.

CONCLUSIONS

1. That chronic renal disease is very apt to occur shortly after the age of 40.
2. That it develops insidiously and is usually far advanced before any symptoms arise indicating the nature of the disease.
3. That the first sign is apt to be an impairment in vision.
4. That in chronic renal disease from 25 to 50 per cent. of cases show characteristic changes in the retina.
5. That it is most desirable to adopt a routine practice of examining the urine, especially if an individual is in poor health without obvious cause.
6. That in many cases the amount of albumen is not large at any time.
7. That when the blood pressure is high an ophthalmoscopic examination is always indicated.

Carleton Building.

THE SCHOOL CHILD IN ITS RELATION TO EUGENICS

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To the scientist of today there appears a strange admixture of truth and misconception in these words of the poet-philosopher. To know ourselves is essential to all human attainment and self-control; while the proper study of mankind is certainly man. But how are we to acquire such knowledge save by a close scanning or critical scrutiny of God himself through an investigation of His laws, that is, the laws of Nature. Many of these laws are known to us, and their method of work fairly well understood and their ultimate consummation appreciated, and yet we fail in many instances to take advantage of our knowledge and then wonder why the outcome of certain events is as it is.

This is notably true in the propagation of the human species. Not that we fail to recognize that reproduction results from the union of cells for, in a measure, we are guided to this through a purely animal instinct; and even in the choice of cells which is to result in the reproduction of kind, the impelling force is, as a rule, still instinctive or animal rather than intellectual. But we do fail to recognize that the immutable law that like begets like is as potent in the human species as it is in the lower animal or vegetable. On the intelligent choice of cells, therefore, the eugenicist bases his plea for rational selection.

Eugenics being a relatively recent study, the pendulum is swinging rather rapidly and reaching greatly diverse positions. Most of the study up to the present moment has been based entirely on heredity, with the consequent note of

fatalism. Those students of the subject, however, who, I think, have looked at the matter more conservatively, recognize the vast importance of heredity and yet give due consideration to the part played by environment in the development of cells and their determinors. We know that only an oak can grow from an acorn, but on the kind of soil, the climatic conditions and the environment generally depends the kind of oak, that is, the finished product. Therefore, regardless of what kind of cells with which we are dealing, whether vegetable or animal, the kind of finished product must depend on the nature of the cells (inherent) with which we start, and their development through subsequent and outside influence. These influences in the main are of two kinds—good and bad—and one usually stronger or, at least, more potent in its action and influence. This results in the superior development of one set of cells over another, allowing a certain portion to remain latent or dormant. These dormant cells are by no means dead, but are frequently capable of being aroused into action by accidental or momentary stimuli. In the light of this conception may be explained, biologically, temptation on the one hand and sudden acts of heroism and even unusual manifestations of genius on the other.

That eugenical idealism cannot be attained in a short period of time is manifest, yet the hope of ultimate success is strengthened in the recognized awakening of thinking men and women. How far we can go in the selection of cells is, at present, an open question.

The marriage license should certainly, even at once, be accompanied by a certificate of health embracing freedom from active venereal disease or tuberculosis, and freedom from inherited taint of feeble-mindedness. Beyond this point I believe we cannot yet go. The public will recoil at the idea of mating on a purely intellectual or rational basis, because sentiment is a strong and useful characteristic of the human mind.

The improvement of the human stock can be accomplished through two great measures—legislation and education. Legislation is so dependent on the education of the people as to the importance of health and virility in a nation that, in reality, through education alone may be seen the ultimate solution of the problem. Through sane and conservative legislation, however, we should be able to prevent marriage among the manifestly unfit, both physical and mental. The physically unfit may include, as already suggested, those suffering from active venereal diseases, whereby their direct transmission to the mate may be prevented, but also the transmission of either active lesions or latent taints which may result disastrously, at a later period, to the offspring; the tuberculous, alcoholic, openly immoral (probably mental defectives) and the feeble-minded.

In regard to the feeble-minded, the law should certainly require segregation at least in the home, if preferably in proper institutions; the latter should be compulsory where home training is impossible. The feeble-minded call for our most careful supervision for very many reasons; they are exceedingly prolific; illegitimacy is very common among them, and from their ranks are recruited a large percentage of the habitually immoral.

The question of the method of control is at present a debatable one, whether by sterilization or segregation. Sterilization will prevent reproduction, but will not prevent immorality and the consequent spread of venereal disease. Perhaps a combination of these methods will prevail.

However many laws are passed, public sentiment must be aroused as to their necessity and in order to back up the laws. Only through a general educational campaign can this be brought about.

It is hardly likely that a great deal can be accomplished in less than a generation, and by that time those of us of the present generation will have passed out of the control of affairs and others will have taken our places. Our aim, therefore, must be to educate the generation which is coming on to take our places.

Our best opportunity lies manifestly in the schoolroom; here we can implant the principle of eugenics when the mind is pliant and receptive, during the formative years of life, and so implant these principles that they will become just as inherent as honesty, patriotism, veneration and other desirable characteristics.

The child is taught, political and militant, and yet is kept in ignorance of the effects on nations of immorality and bad breeding. He is taught patriotism through a respect for the flag, a regard for law and protection from an invading enemy, and yet that patriotism which means better citizenship, health conditions and all that makes for virile manhood is neglected. Is it not time that the instruction of the youth of our land be broadened, and is not the wonderful school system of the country the very opportune channel through which to work for the future improvement of the nation? Why should we neglect the most potent of all factors—the education of the children who are in a short generation to be the mothers and fathers, and in the seats of government?

Biology should be regarded as one of the fundamentals in school just as much as the three "R's," for only through biology can be taught the laws of Nature by which the race is propagated, the conception of cells and cell plasma, and that they are of two kinds—good and bad; that through certain determinors and their development are character and health established; through biology can the child best be taught sex relationship in a delicate manner and entirely within the bounds of propriety, and

thus be fully prepared gradually for knowledge which comes to him more or less abruptly and from sources which are rarely wholesome, but rather vulgar and suggestive.

The child at this age must also be impressed with the moral wrong done in bringing unfit offspring into the world. This should be taught as a fundamental principle and in such a way as to be incorporated into the whole makeup of the individual. The far-reaching effects of the various diseases, not only directly on the individual, but also their effects when transmitted to the next generation, should be told in plain terms without reserve or prudery and yet without suggestiveness. The importance of personal hygiene should be so thoroughly taught that it becomes a habit to such an extent that no other than a hygienic would be considered.

The various forms of domestic science should form a very considerable part of the school curriculum, not only because of their importance in every-day life, but because right living in the home, which can be taught more effectively in school than elsewhere, is a potent factor in the problem of eugenics.

By far the most vital part of domestic science and the part at present most neglected, however, is the nursery. Most young girls enter into the marriage relation entirely unprepared in mind or body for what lies before them; become mothers, the highest office in life, without having the faintest idea of the care of the infant, with the result that many of them learn the proper care of children at the expense of the life of at least their first born. Why should not the care of infants be incorporated into a course in domestic science? The public school system should be the pioneer in such a movement and thus serve the cause of eugenics as it can be served in no other way.

ASSISTANT SURGEONS FOR UNITED STATES PUBLIC HEALTH SERVICE

Congress has recently made an appropriation for thirty-three additional assistant surgeons in the United States Public Health Service. These officers are commissioned by the president, and confirmed by the senate. The tenure of office is permanent, and successful candidates will immediately receive their commissions.

After four years' service, assistant surgeons are entitled to examination for promotion to the grade of passed assistant surgeon. Passed assistant surgeons after twelve years' service are entitled to examination for promotion to the grade of surgeon.

Assistant surgeons receive \$2,000, passed assistant surgeons \$2,400, surgeons \$3,000, senior surgeons \$3,500, and assistant surgeon-generals \$4,000 a year. When quarters are not provided, commutation at the rate of \$30, \$40, and \$50 a month, according to the grade, is allowed.

All grades receive longevity pay, 10 per cent. in addition to the regular salary for every five years up to 40 per cent. after twenty years' service.

Examinations will be held every month or so in various cities, for the convenience of candidates taking the examination. Further information will be furnished by addressing the Surgeon-General, United States Public Health Service, Washington, D. C.

THE JOURNAL

OF THE

Missouri State Medical Association

Address all Communications to 3517 Pine Street, St. Louis, Mo.

SEPTEMBER, 1916

EDITORIALS

FEE SPLITTERS ORGANIZE

Driven from the ranks of medical organization as represented by the American Medical Association and its constituent associations, the fee splitters and rebaters in medicine have finally launched an organization of their own, according to the statements in a letter from the treasurer of the new society. The letter reads:

Dear Doctor:

Naturally, men are either conservative or progressive—there are always two parties in almost everything. The American Medical Association represents the conservatives; heretofore the progressives have had no great national organization.

We—the majority of the medical profession—who believe in division of fees (i. e., that the surgeon should not "hog" the whole of a patient's money and leave nothing for the family doctor), are no longer welcome in the A. M. A. We are therefore organizing the Medical Society of the United States, which will not be conducted for the benefit of a few selfish egotists. We would like to have you with us.

It costs only \$1 to join us. This covers dues for 1916 and includes expense for the beautiful certificate of membership (suitable for framing), which you will receive on admission. Fill enclosed blank and return to me with \$1.

Cordially yours,
EMORY LANPHEAR.

P. S.—Membership in your local society is NOT obligatory. On the line "Recommended by" put the names of two doctors (preferably of your neighborhood), who will vouch for you.

It is meet that the headquarters of the fee splitters' organization should be located in St. Louis, where dwells their advocate-in-chief; where also dwells the headquarters of a virile, watchful medical organization whose objects and purposes are unalterably opposed to fee splitting and whose duty it is, therefore, to direct the attention of physicians and the public to the sinister influence of the fee splitter. The officers of the new society are:

President, A. H. Ohmann-Dumesnil, St. Louis.

Secretary, George Howard Thompson, St. Louis.

Treasurer, Emory Lanphear, St. Louis.

Vice Presidents, CARL KELLER, Honolulu; Nobel Younkin, Frankfort, Ind.; Oscar J. Fullerton, Waterloo, Iowa; WILLIAM F. WAUGH, Muskegon, Mich.; BRUNO J. F.

GETZLAFF, Sutton, Neb.; ⊕GEORGE L. SERVOS, Reno, Nev.; J. N. PYLE, Mineral Wells, Tex.; C. A. Bryce, Richmond, Va.; Josef Francois Replogle, Dubois, Wyo.

Among the contributors to the program we note the following:

W. FRANKLIN COLEMAN, Chicago; ⊕R. HARVEY COOK, Oxford, Ohio; ⊕W. A. NEWMAN DORLAND, Chicago; CHARLES J. DRUECK, Chicago; ⊕WILLIAM S. GOTTHEIL, New York City; ⊕WINFIELD S. HALL, Chicago; EVAN O'NEILL KANE, Kane, Pa.; ⊕THOMAS H. KELLEY, Chicago; ⊕J. C. TRITCH, Findlay, Ohio; CARL B. WAGNER, Chicago.

The names in capitals in the above lists are members of constituent state associations of the A. M. A., and those with the symbol opposite their names are Fellows of the A. M. A. What explanation can they give for permitting themselves to be implicated in a scheme to destroy the usefulness of their state associations and of the American Medical Association? What kind of loyalty do they exhibit to the organization that they have pledged themselves to support? What sort of principles govern them in joining or supporting an organization avowedly opposed to the organic law and the principles of conduct governing the American Medical Association, without first severing their membership in the latter body?

The tree is known by its fruit, and a man is known by the company he keeps.

That the little matter of a state law prohibiting fee splitting does not bother the organizers of the Medical Society of the United States is demonstrated by the fact that invitations to join the society have been mailed to selected lists of physicians in those states that have statutes against the nefarious practice.

We are somewhat curious to learn how many members of the Missouri State Medical Association will fly to the ranks of the fee splitters, now that the mustering bugle has been sounded and the recruiting office opened. None of our members has as yet been published among "those present" in the new organization, but we are quite sure that the Association will quickly accept the resignation of anyone who desires to affiliate with the Medical Society of the United States and THE JOURNAL will give proper publicity to the event.

THE WOMEN TAKE A HAND

Party politics was responsible for an attempt to oust W. H. Phipps from the position of Dairy and Food Commissioner of Kansas City, if the Kansas City *Star* comments presciently. Phipps is a democrat. The present administration is republican. "An alderman has been

picked," says the *Star*, "to introduce a resolution asking his [Phipps'] removal at the session of the city council tomorrow night. . . . What grounds will be given for the fight on Phipps in the council is not known. The politicians have been busy circulating various stories about him and have found ready allies in the grocerymen, dairymen, ice cream manufacturers and other food venders who have felt the weight of his clean-up campaign." That was the afternoon of August 13.

The *Star* is one of the really effective newspapers of this country and is attentively read by almost every man and woman in Kansas City. The item aroused the women and they shattered all records for mobilizing, entrenching and arming their forces for a general assault on that resolution. The *Kansas City Times* (the morning edition of the *Star*), for August 14 contains remarks and opinions from a number of influential women, members of the Consumers' League and the Council of Women's Clubs, all strongly commending Mr. Phipps and praising his work. To quote from the *Times*: "'To attempt to remove Mr. Phipps as food and dairy commissioner is an outrage to decency,' said Mrs. Henry N. Ess, president of the Central Suffrage Association and a member of the Consumers' League. 'I voice the sentiment of hundreds of housekeepers, too, when I say it. Mr. Phipps has given this city the results of his years of training; his work has been efficient and the reforms he has instituted have been of rare benefit.'"

Along about 2 o'clock in the afternoon the aldermen and city officials began receiving telephone calls from many women. Each of the women told the men in very plain language that a vote for the resolution to oust Phipps would precipitate a fight against them by 9,000 women members of the women's clubs. The men were bluntly informed, furthermore, that the women had spent many months studying the milk and dairy question and knew more about it than the aldermen or the members of the board of health, and they threatened to send committees to every session of the board of aldermen and to every meeting of the board of health and to familiarize themselves with every other department of the city government!

The board of aldermen met that night.

The resolution was not introduced.

SCIENTIFIC INFANT FEEDING

Scientific infant feeding during the past six years has made progress with leaps and bounds. While the monumental work of Rotch has crumbled to the ground his life work has made a herculean impression on the whole subject. His writings have stimulated an army of inves-

tigators in this very vital subject and as a consequence we see results of a very tangible nature. From his complicated percentage system of infant feeding we have seen gradually evolved a system which is characterized by its great simplicity. An endeavor to make cow's milk resemble mother's milk is today anachronistic. Cow fat and cow protein will always be what they are and their biological nature is *facile princeps* our difficulty and can not be changed. Today we see the most scientific infant feeder prescribing dilutions of whole milk with the addition of a well cooked cereal and one of the disaccharides to supply the infant's organism with sufficient calories. From studies of nutrition we know just how many calories the infant's organism can tolerate. An over-supply of these calories can damage our boiler; similarly a paucity of heat units over an extended period can see our flame go out. The different influences which place a burden on the infant's organism have been studied and taken cognizance of in our prescribing. Ignoring the baneful influences of heat and excess of clothes will jeopardize the life of our infant.

The therapeutic value of casein is well recognized and frequently taken advantage of. Because starch is not a constituent of breast milk is no reason today for keeping starch out of the diet of the young infant provided it is well cooked. The numerous methods advised to prevent the firm coagulation of cow's milk in the stomach have given way to the simple expedient of boiling the milk. Cow fat can be digested but at times it may be necessary to keep it entirely out of the diet. Its constipating effect owing to its formation of soap in the bowel of the infant is one of the paradoxes we must reckon with; a similar one is its effect to depress the weight curve owing to its abstraction of mineral salts.

The student of today is no longer required to wrestle with algebraic formulas in order to acquire a knowledge of scientific infant feeding.

NEW ADVERTISERS

AMONG our new advertisers is the firm of W. D. Allison Company, of Indianapolis, Ind., manufacturers of tables and instrument cases and other office furniture for physicians. W. D. Allison Company have been in the medical field for many years and have earned the confidence and good will of the entire medical profession. Their advertisement in our JOURNAL is in line with their policy to support the organized medical profession and invite the patronage of members of the State Association. A post-card request for their catalogue or for other information would be appreciated by the firm and would be valuable to the physician when he is in the market for such goods.

Another new patron of our advertising pages is the Blomqvist Gymnastic and Orthopedic Institute of Kansas City. Mr. Blomqvist is an experienced director of physical training and thoroughly understands his work. His methods and apparatus are approved by members of the Jackson County Medical Society which is a guarantee that the cases referred to him will be treated intelligently and according to instructions from the physician.

We invite the attention of our members to both these firms and emphasize again the importance of patronizing our advertisers when in the market for articles announced in our advertising pages.

OBITUARY

JAMES W. DREYFUS, M.D.

Dr. J. W. Dreyfus, a graduate of Washington University Medical School, 1877, died at his home in Louisiana, Mo., Aug. 19, 1916, from apoplexy, aged 65 years.

Dr. Dreyfus was a member of the Pike County Medical Society and the Missouri State Medical Association.

WM. M. SHANKLAND, M.D.

Dr. Wm. M. Shankland died at Clinton, July 16, 1916, at 9:30 p. m. of apoplexy, age 58. He was born in Camden County, Mo., attended the State University for three years prior to 1881 and graduated in medicine at the Missouri Medical College in 1885. He was married to Miss Francis M. Highnote, June 2, 1886, who with three sons survive.

It is with sincere regret that we have to record the loss of one of our number in the prime of his life and usefulness and the removal of a faithful and efficient member who had been honored by the offices of president, secretary-treasurer and had been sent to represent the Henry County Medical Society at the annual meeting of the State Medical Association.

VINCIL O. WILLIAMS, M.D.

Dr. Vincil O. Williams, of Nevada, one of the most promising and brilliant young physicians of the state, was found dead in his automobile standing on the roadside, June 24. His death was probably due to heart trouble, although none of his friends were aware of any affection that would cause his sudden death.

Dr. Williams was only 35 years old and had earned a high position in his profession. He

was chief surgeon on the staff of Brigadier General Clark at the mobilization camp of the National Guard of Missouri preparing for their trip to the border, and it is thought that the arduous work thrown on him in this connection contributed largely to his death. He was born in Morgan County, the son of Dr. O. A. Williams, who practiced medicine in this state for fifty years. Dr. Vincil O. Williams received his medical education at the St. Louis University, graduating in 1904. He served as intern at the Alexian Brothers Hospital for one year and was assistant physician at the State Hospital at Nevada for several years. The death of Dr. Williams was a severe shock to the citizens of Nevada and a great loss to the entire profession of the state. He possessed a brilliant mind and was a faithful, skilful and accomplished physician, a sincere and devoted friend.

CHARLES H. HUGHES, M.D.

Dr. Charles H. Hughes of St. Louis, one of the most widely known specialists in nervous and mental diseases, died at his home July 13, aged 77 years.

Dr. Hughes was born in St. Louis in 1839, and received his education at the Grinnell College in Iowa, and his medical education at the St. Louis Medical College, from which he graduated in 1859. He was a major of cavalry and surgeon in charge of hospitals in the Civil War. Soon after the war he was appointed superintendent of the hospital for the insane at Fulton, from which position he resigned in 1871. He was one of the founders of the Marion-Sims Medical College and editor and owner of the *Alienist and Neurologist*. He was a member of the St. Louis Medical Society and the Missouri State Medical Association, a Fellow of the American Medical Association and a member of a number of special societies in this country and an honorary member of the British Medico-Psychological Association, the Russian Society of Neurology and Psychiatry and other foreign societies. He was a delegate from the United States government to the International Congress for the Prevention of Alcoholism at Stockholm, 1907, and a delegate to the Fourteenth and Fifteenth International Medical Congresses. He was one of the principal alienists employed in the trial of Guiteau, who assassinated President Garfield, and declared that Guiteau was of legally sane mind. In the famous case of Arthur Duestrow in St. Louis, a wealthy young man who killed his wife and pleaded insanity, Dr. Hughes was the principal alienist for the state and testified that Duestrow was sane and responsible. It was largely on the testimony of Dr. Hughes that Duestrow was executed for the crime. He

is survived by several children, among whom is Dr. Marc Ray Hughes of St. Louis.

At the meeting of the Missouri State Board of Health, held in Jefferson City, Mo., on the above date, the following resolution was adopted:

"WHEREAS, We have learned of the death of our distinguished friend and co-laborer, Dr. C. H. Hughes, of St. Louis; and whereas the Medical Profession has sustained the greatest loss in recent years; therefore be it

RESOLVED, That the board extend to the bereaved family our deepest condolence; and be it further

RESOLVED, That these resolutions be spread on our minutes and copies furnished to the State Medical Journal and the sorrowing relatives."

NEWS NOTES

KANSAS CITY has appropriated \$300,000 for the hospital and health department for one year.

DR. W. R. HARDIN, of Louisiana, has been appointed local surgeon for the Burlington Railroad at that point.

A CITY-WIDE crusade against rats, stray cats and dogs has been started at Joplin by Dr. R. B. Tyler, health commissioner.

THE Medical Association of the Southwest will hold its eleventh annual meeting at Fort Smith, Arkansas, October 2, 3, 4.

DR. W. A. CLARK of Jefferson City has been appointed penitentiary physician in the place of Dr. George L. McCutcheon, resigned.

DR. B. K. STUMBERG, of St. Charles, has been appointed surgeon in the Army Hospital at Honolulu. He sailed about September 2.

THE American Association for the Study and Prevention of Infant Mortality will hold its seventh annual meeting at Milwaukee, October 19-21.

THE August number of the *Modern Hospital* is devoted to a symposium on welfare work among the employees of industrial corporations.

THE school board of St. Joseph has requested the Buchanan County Medical Society to propose a plan for systematic inspection of school children.

DR. J. V. COWLES of Kansas City was arrested May 16 charged with issuing prescriptions for narcotics in a wholesale manner. He was held under a \$3,000 bond.

DR. WILLIAM J. CULPEPPER, of Willow Springs, has been appointed division surgeon for the Frisco Railroad at Willow Springs to succeed the late Dr. H. J. Rowe.

DR. C. P. LEWELLEN, of Louisiana, President of the Pike County Medical Society, is serving in the Missouri National Guard as First Lieutenant and is now located on the Texas border.

DR. D. R. HILL, Joplin, former health commissioner of that city, has been appointed dispensary physician for Jasper County Public Health Committee with headquarters at Webb City.

DR. F. G. BEARD, of St. Joseph, has been appointed health officer for that city. Dr. Beard has been city physician and police surgeon for a number of years. Dr. J. L. Cox has been appointed police surgeon.

DR. A. C. FIELD, of Kansas City, charged with the sale of large quantities of habit forming drugs about a year ago, was again arrested recently for obtaining money under false pretenses in connection with a motor car sale.

THE health of pigs is more precious than the health of babies. In some states patent medicines for pigs must be labeled to show the active ingredients but the ingredients of medicines for babies remains a deep and dark mystery.

USING paroled prisoners as helpers in the Tuberculosis Hospital at Kansas City has proved so satisfactory to the superintendent, Dr. S. B. Hirschberg, that he has recommended the dismissal of six employees thus reducing the salary expense by \$295 a month.

DR. JAMES R. CLEMENS, head of the Department of Children's Diseases in the medical department of St. Louis University and for many years prominent in the profession at St. Louis, has accepted the deanship of the John A. Creighton Medical School at Lincoln, Neb.

DR. E. W. SAUNDERS, of St. Louis, who has been active in the study of methods to control infantile paralysis, was stricken with ptomaine poisoning recently which caused a temporary paralysis of both hands. He went North for a few weeks and has now entirely recovered.

THE following physicians, members of the St. Louis Medical Reserve Corps, have been ordered to report for military service at the camp of the Missouri National Guard, Nevada: R. E. Wobus, F. G. Pernoud, John C. Morfit, M. G. Seelig, D. L. Harris and Clarence Loeb.

THE nurse of the Jasper County Public Health Service made 475 calls at the homes of 185 sick persons in July. Sixty-one children were taken to the clinic. The life-saving service of this method of looking after sick people is making a lasting impression upon the people of Jasper County.

THE license of Dr. J. W. Carryer, of Columbia, has been revoked for twenty-five years. In April, 1915, Carryer was convicted in the Boone County Court of performing an illegal operation and fined \$500. He appealed to the supreme court and the decision of the lower court was confirmed.

DR. M. C. STARKLOFF, Health Commissioner of St. Louis, has made a hard fight to prevent the board of aldermen from altering the ordinance requiring dogs to be muzzled when on the streets. As contemplated, the amendment would make the law a dead letter as it would be impossible to enforce it.

COLUMBIA has adopted an ordinance creating the office of sanitary inspector; not, however, without considerable opposition from persons who objected to the "expense." It is gratifying however, to know that the majority realized that a sanitary inspector far from being an expense to a community is in fact a large factor in saving money for the tax payers.

THE Central States Pediatric Society holds its next meeting in St. Louis the middle of October. This Society was organized last year at a meeting held in Chicago for that purpose and represents the rapid advance of pediatrics in this section of the country. The meeting will be held under the auspices of the St. Louis Pediatric Society. A large attendance is expected.

THE Kansas City Board of Health invited the U. S. Public Health Service to send a representative to that city to make a health survey for the purpose of laying the foundation for an effective system of health administration. Surgeon George B. Young was assigned to make the survey and is now studying health conditions of the city. Kansas City recently employed an expert to estimate the cost and most effective methods of garbage disposal.

SEVERAL of the citizens of St. Louis, where the water supply is very free from colon bacillus and other pathogenic bacteria, seem to be suffering from drinking contaminated water in surrounding communities. It is too bad that intelligent people will drink raw water from unknown sources and especially from wells, cisterns and springs near resorts that have no means of preventing water contamination. Such water should be boiled.

A CHIROPRACTOR named Charles Rohlfing, of St. Louis, was arrested by the officers of the health department for practicing medicine without a license. Rohlfing told a perfectly healthy representative of the health department that he was suffering with kidney trouble and offered to give him six treatments for \$5. He took \$2.50 on account and was arrested. He was released on bond.

THE Kansas City Board of Health is preparing an ordinance to compel all persons handling food stuffs and beverages to undergo a physical examination. The ordinance will require such persons to obtain a certificate from the Hospital Department that they are free from communicable diseases. Some employers have urged their employees to be examined at once and not wait for the passage of the ordinance.

THE members of the St. Louis Medical Society have volunteered to attend the dependent families of soldiers from St. Louis free of charge during the absence of the militiamen, and the following hospitals will care for sick members of such families free of charge: St. Marys, St. Anthony, Mount St. Rose (for tuberculous patients), Alexian Brothers, St. Johns, the Barnes Hospitals, Lutheran and St. Lukes. The druggists will fill prescriptions gratis or at cost.

DR. FRANCIS M. BARNES, JR., St. Louis, associate in psychiatry in Washington University Medical School, has become associated with Dr. H. S. Atkins as Medical Director of the Glenwood Sanatorium, but will retain his offices in the Humboldt Bldg. for private work. Plans are drawn for a new addition to the Glenwood Sanatorium. When completed this addition will have accommodations for twenty-six patients, the administration offices and hydro-therapeutic rooms.

THE Nebraska State Medical Association has established a monthly journal. The first issue appeared July 15 and contains 33 pages of reading matter with 20 pages of advertisements, the latter restricted according to the rules of the American Medical Association. The proceedings of the annual meeting of the Association and the president's address are published in the first number. It must be a source of considerable gratification and a stimulus to new interest in the work of the State Association for the members in Nebraska to have the complete proceedings, including the reports of all committees and councilors, placed before them sixty days after the session. The makeup of the journal is excellent, the style good and the appearance pleasing. Dr. Irving S. Cutter is the editor and Dr. J. M. Aiken, secretary of the Association, is business manager. The office is in Omaha.

DR. R. B. TYLER, Health Commissioner of Joplin, has prepared a "surprise party" for restaurants, food merchants and others who violate the pure food laws. It became known to Dr. Tyler that spoiled meats and other food unfit for consumption would be hidden during the sanitary inspector's visit and immediately after his departure these foods would be recovered and placed on sale. The "surprise party" will be in the nature of a quick return visit with subsequent operations in the courts.

THE City Council of Springfield, after passing an ordinance requiring dogs to be muzzled when on the street, all but destroyed the effectiveness of the ordinance in protecting the health and lives of the people by changing it so as to require muzzling only during the months of June, July, August and September. Dr. James, Health Commissioner of Springfield, fought valiantly to retain the original ordinance in force but he was unable to convince the members of the Council that rabies was just as dangerous in the other eight months of the year as during the summer months.

THE Battle Creek Sanitarium celebrates the fiftieth anniversary of its founding on October 3, 4 and 5. From its inception it has been in the forefront of the movement for natural, rational and physiologic methods in the treatment of the sick. Primarily its function has been educational—the teaching of right principles of living as not only aiding in curing sickness but preventing its return as well. Being purely a charity and having no dividends to pay to stockholders, it has been able in the half century of its existence to spend over \$1,400,000 for the care of the indigent sick. The program for the celebration includes a huge banquet, receptions, a big outdoor spectacle, a street pageant, with historical and allegorical floats, a race betterment exhibit, conferences on child labor, eugenics, tuberculosis and other socialological and medical problems of the day, with numerous speakers of prominence, and a Health Chautauqua. All physicians are invited to come.

THE following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Nonofficial Remedies:

The Abbott Laboratories: Arbutin-Abbott, Galactenzyme Tablets, Galactenzyme Bouillon.

Schlesinger Radium Co.: Radium Bromide, Radium Carbonate, Radium Chloride, Radium Sulphate.

Vitalait Laboratories: Vitalait Starter.

E. R. Squibb and Sons: Solution Hypophysis-Squibb, Roberts' Occult Blood Test-Squibb,

Ampules Mercuric Salicylate-Squibb, 0.065 Gm., Ampules Quinine Dihydrochloride-Squibb, 1 Gm., Ampules Quinine Dihydrochloride-Squibb, 0.5 Gm., Ampules Quinine Dihydrochloride-Squibb, 0.25 Gm., Ampules Quinine and Urea Hydrochloride-Squibb, 1 Gm., Ampules Quinine and Urea Hydrochloride-Squibb, 0.5 Gm., Ampules Quinine and Urea Hydrochloride-Squibb, 0.25 Gm., Ampules Quinine and Urea Hydrochloride-Squibb, 1 per cent., Ampules Sodium Cacodylate-Squibb, 0.13 Gm., Ampules Sodium Cacodylate-Squibb, 0.05 Gm.

MEMBERSHIP CHANGES, AUGUST

NEW MEMBERS

Webster W. Davault, Shawneetown.
Ralph McReynolds, Knox City.
Wilson A. Myers, Kansas City.
David A. Williams, Niangua.

CHANGE OF ADDRESSES

George A. Aiken, Malta Bend, Mo., to Wake Forest, N. C.

John T. Beale, Versailles to Lovelock, Nev.

Frank G. Beard, Seventh and Messanie St. to City Hall, St. Joseph, Mo.

J. E. Dewey, Springfield to Christian Hospital, Kansas City, Mo.

John F. Hardesty, City Hospital to 3206 California Ave., St. Louis, Mo.

Carl A. Hoberecht, 3400 Cherokee St. to 500 Carleton Bldg., St. Louis, Mo.

Otto C. Horst, Frisco Hospital to 1219 Benton Ave., Springfield, Mo.

Joseph L. Hutton, City Hospital to 2752A Cherokee St., St. Louis, Mo.

Henry C. Kloepper, 3707A S. Jefferson Ave. to 3801 S. Broadway, St. Louis, Mo.

J. A. Konzelman, 1237 N. Taylor Ave. to 302 Wall Bldg., St. Louis, Mo.

Elizabeth M. Rusk, 4241 Delmar Ave. to 4561 Washington Ave., St. Louis, Mo.

L. R. Sante, St. Louis, Mo., to Ellendale, N. D.

Charles F. Sherwin, City Hospital to 3931A Shaw Ave., St. Louis, Mo.

A. F. Sternfels, 4169A Farlin to 4506 Fair Ave., St. Louis, Mo.

Samuel W. Woltzen, Urich to Clinton, Mo.

DROPPED

William J. Alexander, St. Louis.

Julian Petit, St. Louis.

James E. Jose, Owensville.

DECEASED

J. W. Dreyfus, Louisiana.

MISCELLANY

NECESSITY OF A COMMISSION TO ADMINISTER WORKMEN'S COMPENSATION LAWS

ALROY S. PHILLIPS
ST. LOUIS

One of the most important factors in the successful operation of a workmen's compensation law is the nature of the machinery which it provides to guarantee the proper carrying out of its provisions. The laws of California, Colorado, Illinois, Indiana, Maine, Maryland, Massachusetts, Michigan, Montana, Nevada, New York, Ohio, Oklahoma, Oregon, Texas, Vermont, Washington and Wisconsin are administered by a commission or board of from three to five members appointed by the governor, with a central office and jurisdiction over the entire state. The states of Connecticut and Kentucky are divided up into districts, in each of which the law is administered by an appointive commissioner. In Connecticut each of the commissioners is independent of the others, but in Kentucky they are organized into a board and act as a body for some purposes. In Pennsylvania there is a supervising board, which divides the state into districts and appoints one referee for each district. In Arizona, Iowa, Nebraska and West Virginia the law is administered to a varying extent by one state officer, such as the attorney general in Arizona, the labor commissioner in Nebraska, or by a commissioner appointed for the purpose, as in Iowa and West Virginia. Kansas, Louisiana, Minnesota, New Hampshire, New Jersey, Rhode Island and Wyoming have no special officer or body to administer the law, and leave the parties to enforce their rights in the courts. New Jersey has a commission, but it has no powers and its function is merely to "observe" the operation of the law.

The purpose of having a commission is to combine and vest in it all of the legislative, executive and judicial powers which are necessary to secure a prompt and efficient administration of the law. There must be some central body, with whom may be filed notices of election, reports of accidents, copies of insurance policies and the like. It must have power to regulate the fees and charges for medical aid, burial, legal services, and insurance. It must collect, compile and publish statistics, so that the public may know how the law is operating and how it may be improved. It must prepare a schedule for rating permanent partial disabilities and must study occupational diseases. It must give the parties advice on all questions under the law, supervise and aid their voluntary settlements, hear and determine their disputes, appoint guardians for minors, defend its awards, investigate disputed cases, commute lump sum settlements, aid in the prevention of accidents, and do all of the other things which are necessary under the law. Some of these are functions which can be more or less imperfectly performed by the machinery of our present system, but wherever this has been attempted it has been found unsatisfactory.

As to some of the results of attempting to administer the law without a commission, the reader is referred to the Report on Three Years' Operation of the New Jersey Law, published by the American Association for Labor Legislation, which shows the following facts: Less than half of the reportable accidents were reported. In not a few cases no compensation at all was paid, and not over 60 per cent. of the amounts due under the law were paid. About 4 per cent. of the voluntary settlements were for less than was due under the law, the most flagrant case being \$760 short. In the cases which came before the courts, the average time to obtain an award was about thirty-five weeks, as contrasted with about eight weeks in Ohio and ten days in Massachusetts. The courts were prone to approve without scrutinizing any settlement agreed to by the parties, and in the contested cases there were different ruling for the same class of cases in different courts. Lawyers were found to be unwilling to take into court cases involving small amounts, and in those cases which were taken into the courts the costs and attorney's fees were from one-fifth to one-fourth of the award, and, in addition, the employer had to pay his own attorney's fees and many workmen lost their employment for taking their cases into court. The report concludes with the following statement:

"The payment of compensation was neither prompt nor certain. An unnecessary large proportion of money due the employee was still used up in litigation. The law provided a tribunal which was so slow in procedure, and so expensive, that in the majority of disputes the injured actually had no recourse. Much of the hostility between employer and employee, and much of the waste and injustice that existed under the old liability system remained in New Jersey, because the machinery which gave use to the evil practices under the old system had been retained for administering the new."

To meet these objections a new and efficient machinery of administration must be substituted for the old, and this means a commission with the fullest powers and an adequate appropriation for its expenses. Some of the powers and duties of such a commission require it to act as a body in a central location with jurisdiction coextensive with the boundaries of the state, while others require that it shall be near and accessible to the parties. The former feature secures uniformity and coherence, while the latter obviates the necessity of employing a corps of investigators and subofficials, and makes the office of the district commissioner or referee a tribunal accessible to the parties and witnesses on hearings, and to which the "widow with a shawl over her head" may repair for counsel and advice. The district commissioner or referee becomes "the adviser of all and the umpire between the disputants," and through his friendly efforts thousands of cases can be settled without a formal hearing and without the aid of a lawyer. Too much emphasis cannot be placed on the necessity for not only the fullest powers to accomplish these results, but also for an adequate appropriation to defray the expense, for the law not only fails to accomplish its purpose without a commission, as in New Jersey, but it also fails with a commission if there are inadequate powers and an insufficient appropriation, as in Illinois.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL, 1916

(UNDER THIS HEAD WE LIST THE SOCIETIES WHICH
HAVE PAID THE STATE ASSESSMENT FOR
ALL THEIR MEMBERS)

- Webster County Medical Society, Dec. 15, 1915.
Benton County Medical Society, Dec. 16, 1915.
Cape Girardeau County Medical Society, Dec. 19,
1915.
Schuyler County Medical Society, Dec. 22, 1915.
Atchison County Medical Society, Dec. 27, 1915.
Clark County Medical Society, Jan. 1, 1916.
Madison County Medical Society, Jan. 10, 1916.
Clinton County Medical Society, Jan. 11, 1916.
Sullivan County Medical Society, Jan. 17, 1916.
Phelps County Medical Society, Jan. 17, 1916.
Camden County Medical Society, Jan. 18, 1916.
Dent County Medical Society, Jan. 31, 1916.
Barton County Medical Society, Feb. 3, 1916.
Moniteau County Medical Society, Feb. 7, 1916.
Henry County Medical Society, Feb. 21, 1916.
Putnam County Medical Society, Feb. 24, 1916.
Pulaski County Medical Society, Feb. 28, 1916.
Vernon County Medical Society, Mar. 3, 1916.
Ste. Genevieve County Medical Society, Mar. 15,
1916.
Cooper County Medical Society, Mar. 30, 1916.
Montgomery County Medical Society, April 4, 1916.
Ralls County Medical Society, April 6, 1916.
Livingston County Medical Society, April 12, 1916.
Macon County Medical Society, April 14, 1916.
DeKalb County Medical Society, April 17, 1916.
Wright County Medical Society, April 25, 1916.
Carter-Shannon County Medical Society, April 26,
1916.
Greene County Medical Society, April 28, 1916.
Iron County Medical Society, April 28, 1916.
Platte County Medical Society, April 28, 1916.
Grundy County Medical Society, May 3, 1916.
Adair County Medical Society, May 5, 1916.
Lafayette County Medical Society, May 5, 1916.
Cass County Medical Society, May 15, 1916.
Johnson County Medical Society, May 20, 1916.
Ray County Medical Society, May 29, 1916.

FOURTEENTH DISTRICT MEDICAL SOCIETY

The Fourteenth District Medical Society, comprising the counties of Saline, Lafayette and Cooper, departed from the usual routine at the August meeting by inaugurating a picnic for the members and their wives, and the innovation proved a decided success. The picnic was held on the beautiful campus of Missouri Valley College at Marshall, Thursday, August 10. About sixty were present to partake of the fellowship and other good things provided for the occasion.

None too much of diversion comes into the life of the busy doctor whose practice is in town and rural communities, and the primary object of this occasion was that he might have the opportunity of coming into social contact with his professional

neighbors and gather the inspiration that inevitably comes from such experience.

A bountiful luncheon provided by the committee was served at 1 p. m. by the wives and daughters of the local members, and no one has yet been heard to make complaint except on the ground of being "too full for utterance."

In the absence of the president of the society Dr. A. J. Chalkley of Lexington, Dr. John R. Hall of Marshall, presided and performed the duties of toastmaster in an interesting and effective manner.

The first "after-dinner" talk was by Dr. W. H. Black, president of Missouri Valley College, who in his own warm-hearted and pleasing style welcomed the members, their wives and friends by enumerating many of the more notable accomplishments of modern preventive medicine and said numerous complimentary things about the conscientious doctor and his profession, closing with a high tribute to the "Christian physician." At the close of Dr. Black's "welcome address" every doctor present was ready to join with Mark Twain, who in response to a very complimentary toast made at a dinner given in his honor said, "I have never heard compliments more beautifully expressed or so richly deserved."

Dr. J. Franklin Welch of Salisbury, president of the Missouri State Medical Association, was the next speaker, and gave a splendid address on "The Objects and Benefits of Medical Organization," referring specifically to the achievements of organization in furthering the ends of scientific medicine in many directions and made special appeal to the younger men of the profession to take hold of the work so well begun and carry it on to its full fruition, ever bearing in mind the unselfish end—that of placing medicine on a higher plane of usefulness and efficiency.

Dr. E. J. Goodwin, St. Louis, Secretary of the Missouri State Medical Association, gave a most thoughtful and stimulating talk on "The Medical Profession as a Force in Social and Political Betterment," dwelling particularly on the benefits to society derived from the practical eradication of smallpox, yellow fever, malaria and in a large measure, typhoid, etc., through the agency of preventive measures. In speaking to the second heading of his subject, Dr. Goodwin emphasized the fact that the failure of the medical profession to impress itself more potently on the legislative and political program of the state is chargeable to indifference on the part of those in whose interest the work is undertaken, setting forth clearly that the end sought is improvement of the public health rather than any selfish or sectarian motive.

Dr. C. Lester Hall of Kansas City, is a native of this community, and Marshall and Saline counties furnished the field for more than half of his eminently useful and successful professional activity. It therefore seemed highly appropriate that Dr. Hall should speak on "Reminiscences," a subject he handled in an entertaining and instructive manner. Especially inspiring were his references to the pioneer physicians of the three component counties of this society, among whom was his own father whose life history is written indelibly in the hearts of many men and women still living in this and adjoining counties.

None there is, I am certain, who will take exception to the statement that the crowning feature of the entire program was the charming response of Mrs. Matt W. Hall, to the subject "The Doctor's Wife." No abstract of what she said could do justice to the address, therefore, it is herewith reproduced in full.

THE DOCTOR'S WIFE

Mr. Chairman, Ladies and Gentlemen:

It no doubt comes as a surprise to many of you that I, the plain wife of a farmer, should be thus thrust forward into prominence in so notable a company of my betters, and I hasten to explain that I am many times a blood relative, and many times and in varying degrees an "in-law" to the medical profession. Moreover, I feel that I here today do by my present suffering make vicarious atonement for my husband's sin in failing to become himself a doctor. Furthermore, I wish it understood that I am distinctly conscious of the fact that I shine today by reflected light only—by a light reflected from that honor conferred on my husband in making him an honorary member of the state medical association. We wives must all suffer for our husband's sins and we ought never to lose an opportunity to borrow any radiance that we may from their occasional good deeds!

When your committee on program first asked me to speak to this subject today, I immediately, like a dutiful wife, conferred with my husband about the matter, thinking of course that he would say, "No! no! I will not have my wife appear so bold and brazen before the Tri-County Medical Society!" But to my surprise it struck him differently and he exclaimed, "Yes, do! It will be such a fine opportunity to jeer at the weaknesses of the doctors and to prick the bubble of their self-esteem!"

Now I hope no one will believe that my intentions lie in that direction. Very much to the contrary, for to me the doctors have no weaknesses and their self-esteem could never equal the esteem in which I hold them. Like Eugene Field's "French-Legged Fyke," they have "most of the virtues and narry a vice." Like the Pilgrim Fathers they stand on a pedestal to be loved, revered and admired. Nevertheless, though believing all this, I am yet constrained to voice the protest of the "mere woman" who, having listened to a long and glowing eulogy of the Pilgrim Fathers, exclaimed, "Oh! The Pilgrim Fathers! We hear so much about their virtues and their accomplishments! But I speak for Pilgrim Mothers! Shoulder to shoulder with the Pilgrim Fathers, they endured hardship and toil, pain, suffering, famine, pestilence, sorrow—death! They endured all these in like degree with the Pilgrim Fathers and in addition they endured the Pilgrim Fathers, too!"

Not very long ago I heard a dear little woman say: "For forty years I have practiced medicine with my husband! In all that time I have known where he was every hour in the day. I've fed him when he was hungry and warmed him when he was cold, and shielded him when he was weary. I've kept a list of his telephone calls; I've stood as a buffer between him and his unfortunate patients; I've reasoned with the unreasoning ones; I've pacified the impatient ones; I've cheered the discouraged ones, and wept with the weeping ones; I've prayed with the praying ones and I've rejoiced of the paying ones!" The dear little woman! Why, she knows no more about the pharmacopeia than I do. I wouldn't trust her to give me a bread pill, and yet, as I heard her and thought of her fine strong husband, a man ideal in all the relations of life, a loving father and a tender husband, a loyal friend and a charming associate, a widely known and eminently successful practitioner, there flashed into my mind a picture painted for me years ago by a wonderful word artist—the picture of a stately vessel with snowy deck and glittering

brasses, aflutter with flags from stem to stern; the national colors breaking out at the mast-head; passengers rejoicing and bands playing as it moves with majestic beauty into the harbor! The spectators cheer the mighty ship, regardless of the fact that a little tug almost hidden by its towering side furnishes the motive power that guides it safely home. And I wondered how many of our eminent practitioners could have swept grandly into the harbor of success under their own steam? Many a one perhaps would have wallowed helpless in the trough of life's ocean. Many a one drifted, a derelict, out to sea; many a one would have foundered in the surf, had it not been for the staunch little tug, the heart of fire and arms of steel, grappling so steadfastly by the stately vessel's side! The inconspicuous little tug, too modest to blow her own whistle!

It is an undoubted fact that the conscientious physician does not reveal, even to his wife, the secrets of the sick room, but it is also another undoubted fact that woman's keen intuition and acute sensibilities were not given her for nothing and the average doctor's wife knows a great deal more than she ever tells. She, no doubt, receives this knowledge by some strange telepathic reading of her husband's moods. The doctor comes to us when all our defenses are down; he visits us in the trenches of despair; he sees us in all our woeful states of moral and spiritual undress; to him more than to any other is given the shriving of the human soul, and no nature can touch another in moments of intense stress without being in some degree modified and fused by that contact. The doctor is so acted on. According to his nature he may become calloused by custom, or passionately pitiful; but whatever his "moods and tenses" they must inevitably react on his wife, and she, whether she will or not, is in some wise "touched with the feeling of our infirmities."

The doctor's wife looks through the morning windows of life with every pair of baby eyes opened to the wonders of this world by the magic of her husband's skill. She prepares the moral lint and the spiritual bandages for those who fall in the noonday battle of life. She sits in that shadowy borderland with the dying, and learns to know gray, cowed death as a plying friend.

I give you today that woman, little understood and less appreciated, who though she may not know my name, yet helps to bear my burden. The woman to whom more than to any other perhaps is revealed the physical weakness and the spiritual nakedness of humanity; the woman of the prudent tongue and the seeing eye; the woman whose soul yearns like a tender mother over a restless, grieving, suffering, sin-smitten world; the woman who knows all our weaknesses, yet whose patience never wearies, and whose charity faileth not! I give you—The Doctor's Wife.

It is interesting to note that Mrs. Hall, while not the wife of a doctor, nevertheless occupies a very close and varied relationship to the medical profession, she being the mother of a doctor, the daughter-in-law, many times sister-in-law, sister and cousin of a doctor, and the wife of the only honorary lay member of the Missouri State Medical Association, the Hon. Matt W. Hall, through whose efforts in the Missouri legislature the present medical practice act was placed in the statutes.

Such meetings occasionally, are worth while, and we hope other societies will try them.

D. F. MANNING, M.D., Secretary.

WASHINGTON UNIVERSITY MEDICAL SOCIETY

Thirtieth Meeting—April 10, 1916

1. EXHIBITION OF CASES.

(A). A CASE OF BONE TUBERCULOSIS.—By DR. MALVERN B. CLOPTON.

C. R. Admitted to Children's Hospital in April, 1915, aged 3 years. He had been sick for eighteen months, starting with a swelling of right leg and finger of left hand. In three months right foot, left foot and left leg and both forearms became swollen. Some of these places have discharged from time to time. Has had night sweats, but no cough or night cries. Has lost in weight. The chest examination revealed no evidence of disease of the lungs or heart. The abdomen was apparently normal. There were various lesions of the long bones. Right forearm was red and swollen with three discharging sinuses from a much thickened ulna. Left forearm was swollen, the ulna thickened with fluctuating areas over it. Both legs were swollen and the tibia thickened. There was fluctuation over one and sinuses from the other. A phalanx of one finger is enlarged and a metacarpal in each foot shows involvement. Both thighs and upper arms are normal. The inguinal glands and the axillary glands on one side were enlarged. The epitrochlear of the left arm was also enlarged. There is no surface heat over any of the swellings. There has been no involvement of any joint. Von Pirquet positive. Wassermann, blood and spinal fluid, negative. Leukocytes 10,000, polymorphonuclears 60 per cent., and mononuclears 40 per cent., hemoglobin 55 per cent. Temperature reached 99 and 100 each evening. The roentgenograms of the ulnae show much enlargement of the shaft, the structures being much rarefied. The tibiae show great density in the middle portion with thickening. In the center of both bones an abscess cavity shows. The joints and epiphyses of all bones were normal. The bones were all opened and filled with iodoform beeswax mixture. The shafts of the ulnae were largely destroyed, the periosteal tube of new bone making a thin new cortex. The tibiae were much eburnated about the abscess. The phalanx and metatarsal were largely destroyed. The glands in the axilla were broken down and were removed; also the epitrochlear. Cultures from the various lesions were sterile for pyogenic bacteria but cultures on Pirigoffs (?) media for tubercle bacilli gave a vigorous growth both from the tibiae and ulnae. These organisms were shown to be of the human strain by Dr. Bell. Microscopic sections of the bones and glands showed tuberculosis. The child was sent to Ridge Farm and has grown rapidly and his general health is much improved. The left tibia has entirely healed and the right almost. The ulnae continue to discharge a little.

This case of tuberculosis in which the shafts of the long bones alone are involved is a very rare condition. We have come to think of tuberculosis as involving only the epiphyses or the immediately adjacent parts. In over fifty cases of osteomyelitis treated in the Children's Hospital this is the first we have seen due to tuberculosis. Another case is now in the wards in which there is a mixed infection of tuberculosis and staphylococcus of the shaft of the femur. This is the class of cases described by Stiles and Fraser who have seen seventy such cases in Edinburgh. In their series 60 per cent. were due to the bovine bacillus.

DISCUSSION

DR. OPIE: I would like to ask Dr. Clopton if there was any evidence of pulmonary tuberculosis.

DR. CLOPTON: The glands have been involved. There has never been any evidence of pulmonary involvement.

DR. OPIE: The type of tubercle bacillus present in the lesion is of interest. Stiles claims that with this type of tuberculosis in bone in as many as 60 per cent. of instances the bovine type of tubercle bacillus occurs. Among the large number of cases with type determination collected by Park and Krumwiede there were a number of instances of tuberculosis of the bones. Whereas in abdominal and cervical tuberculosis half of those under 15 years of age showed the bovine type, with bone tuberculosis the bovine type was found in only one of sixteen cases, the remainder being of the human type. With pulmonary tuberculosis infection in practically every instance is with the human type of tubercle bacillus.

DR. CLOPTON: It is probable because of the extent of the infection of the herds in Scotland that they have so much bovine tuberculosis there, which was found by Frazer to be 60 per cent. of his bone cases. Stiles' idea is that the infection is first in the glands and through the breaking down of the glands gets into the blood stream. The most striking finding in this case is that the joints are free and the shafts alone are involved.

DR. ROBINSON: The hands of this child are particularly interesting from one point of view. They resemble somewhat the condition seen in Still's disease in which there is chronic arthritis with enlarged glands, and it brings up the question of the etiology of Still's disease. Poncet has emphasized, probably over-emphasized, the rôle of tubercle bacilli in the production of arthritis deformans or chronic infectious arthritis. He described a swelling of the joints very like what is seen in this child.

2. ELECTROCARDIOGRAPHIC STUDIES OF CONGENITAL HEART DISEASE.—By DR. HUGH McCULLOCH.

Electrocardiograms have been obtained from cases of congenital malformation of the heart that show a distinct difference from normal curves. Einthoven first called attention to an abnormal ventricular complex in congenital heart disease but Steriopulo first observed the form of curve that is usually associated with this condition. His curves showed in Lead I instead of the customary R wave of medium height and an S wave relatively very small, a deep S wave and a very small R wave. This form of curve has been obtained since by Ratner, Hecht, Lewis, Einthoven and others. Nicolai holds that this form of curve is characteristic of congenital heart disease and that all congenital malformations of the heart will show this type.

It is commonly held that a curve with deep S waves in Lead I and high R waves, Lead III, are associated with hypertrophy of the right ventricle. This was Einthoven's conclusion from his early work on electrocardiograms and further work by other observers tends to strengthen his ideas. Thus this type of curve has been obtained from hearts with tricuspid insufficiency, high grade mitral stenosis and from cases known to have pulmonary stenosis. It is also obtained from infants quite normally during the first six months of life as a result of the activity of the right ventricle during fetal circulation.

The group of cases reported, twelve in number, include four cases of pulmonary stenosis; five cases

of defect of the inter-auricular or ventricular septum; two cases of patent ductus arteriosus, and one case of right ventricular atrophy. The electrocardiograms obtained from them are confirmatory of Einthoven's conclusions regarding the form of curves associated with right ventricular hypertrophy. They also indicate that this type of curve is not diagnostic of congenital malformation of the heart but of the secondary relative right ventricular hypertrophy associated with the lesions.

The four cases of pulmonary stenosis show curves with deep S waves in Lead I and high R waves in Lead III, and it is well known that in pulmonary stenosis one sees the highest degree of right ventricular hypertrophy. The cases with defect of the septum indicate a right-sided hypertrophy but not to the same extent, which is in accordance with the fact that defects of the septum usually produce hypertrophy of both ventricles. The cases of patent ductus arteriosus are adults and show signs of left ventricular hypertrophy. The case of right ventricular atrophy from which were obtained electrocardiograms that differ very little from normal came to necropsy. This heart also showed marked right auricular hypertrophy and a widely patent foramen ovale. The case is especially instructive since there was a distinct congenital malformation in a heart that had a right ventricle devoid of an ability to hypertrophy due to the absence of muscle tissue in its walls.

DISCUSSION

DR. ROBINSON: The observations that Dr. McCulloch has made are interesting from a number of points of view. The fact that twelve cases of congenital heart disease came under observation in so short a time is of interest. From the point of view of the electrocardiographic studies of congenital heart disease, there is one thing that should be emphasized, viz.: There is a definite teaching, that of Nicolai especially, that the curve is of pathognomonic significance. Dr. McCulloch has shown that it is not and the two fatal cases, one showing right-sided hypertrophy and one showing right-sided atrophy, give the key to the situation. Up until this time, no one has definitely associated right-sided hypertrophy in congenital heart disease with the form of electrocardiogram that has been obtained, and I think Dr. McCulloch's definite association of these two features of congenital heart disease is of distinct value. The diagnosis of congenital heart disease is not so difficult, but to say just what the lesion is, is often practically impossible. Unfortunately, the electrocardiogram does not throw any very clear light on the type of lesion that is present.

DR. VEEDER: I would like to ask if in any of these cases the electrocardiogram showed any changes in conduction. Apparently, the changes in the records were all due to hypertrophy. It would seem that with the structural changes we should get some change in the conductivity of the heart.

DR. MCCULLOCH: In reply to Dr. Veeder's question, I would say that a few cases of congenital heart block and congenital so-called idiopathic bradycardia have been observed, but none of them have had electrocardiographic studies. There have been several anatomical observations made in which the conducting system was found to be definitely disturbed. These showed lesions in the septa or orifices, but just what the electrocardiographic signs would be I do not know. In one of these cases that we have the conduction time is a little delayed, probably about four to five hundredths of a second, which is not very much.

3. THE TOTAL NON-PROTEIN NITROGEN AND CREATININ IN THE BLOOD OF CHILDREN.—By Drs. BORDEN S. VEEDER and MEREDITH R. JOHNSTON.

The non-protein nitrogen content of the blood was determined in seventy-two children and the creatinin content in sixty-two. In both the normal children and those showing evidence of disease, the values were for the most part within normal limits: viz.: 20-30 mg. per 100 c.c. for the non-protein nitrogen and 1-2 mg. per 100 c.c. for the creatinin. In a few cases the content was higher, but there was no marked retention of these substances in any case.

Five cases of nephritis studied showed no marked retention. One case died but the death was not uremic. With clinical improvement there occurred a reduction in non-protein nitrogen and creatinin content.

A number of cases of scarlet fever, followed over a period of five weeks, usually showed a decrease after the acute febrile stage had passed. Only one child showed any considerable degree of retention. Death occurred and the kidney showed acute fatty degeneration.

Creatin determinations showed lower values than have been determined for this substance in adults. No relationship between the amounts of creatinin and creatin was apparent.

Starvation seemed to cause a slight increase in all three of these substances.

DISCUSSION

DR. MORRIS: I would like to ask if there is any significance in finding no greatly increased creatinin results, no marked retention of creatinin in any of the nephritis cases, as opposed to so many high non-protein nitrogen results.

DR. LOEB: I recently saw a paper by Morse and Cutter, in which they also came to the conclusion that in children's nephritis the output of non-coagulable nitrogen is not increased, in contradistinction to the nephritis of adults.

DR. VEEDER: There is considerable variation in the amount of non-protein nitrogen and creatinin retention in the nephritis of adults. For instance, in Myers cases, only eleven showed a retention of over 5 mg. of creatinin per 100 c.c. Even in some of the fatal cases, the non-protein nitrogen retention is low and likewise the creatinin retention. We have but a small group of cases of nephritis as nephritis in children does not occur frequently. As a rule these cases of acute nephritis clear up, as they did in all the cases we had but one, which died of bronchopneumonia.

4. THE FREQUENCY OF VARIATIONS IN MAN WITH REFERENCE TO HEREDITY.—By DR. C. H. DANFORTH.

Variations both in structure and in functional reactions are of common occurrence in man. The causes of such variations can sometimes be definitely assigned, but more often they are obscure. How frequently heredity plays a rôle in such cases it is difficult to determine. Undoubtedly similar manifestations may be due in one case to heredity, in another to environment. It consequently seems desirable to attempt to arrive at a clear understanding of how any given characteristic should be distributed in the general population if it is attributable strictly to hereditary causes. The question of mendelian recessives due to a single factor has been studied

from this point of view. In such cases if there is no marked differential death or birth rate, and if the character may also be assumed to play no part in marriage selection, a definite equilibrium with reference to the character in question will be established in the general population, the constitution of which may be represented as

$$a^2 + 2aA + A^2$$

where a^2 represents the relative number of affected individuals, $2aA$ the number who appear normal but are capable of transmitting the trait and A^2 those who are entirely free from the taint. These proportions continue the same whether the population as a whole fluctuates or remains constant. Given the value of a^2 the proportions of each of the other two classes in the population can easily be determined, and with this data at hand it is possible to calculate the probable relationships of affected individuals. For example, in the case of a hereditary characteristic which shows an incidence of 1:10,000 (about that of diabetes mellitus) the expectation is that parent and child will both be affected rather rarely, brothers and sisters much more commonly so. If the average number of children per family is eight, it would be expected that 28 per cent. of all affected individuals would have only normal brothers and sisters, parents, grandparents, and great grandparents, cousins, uncles and aunts. In other words, 28 per cent. of cases would seem to present an entirely negative family history despite the fact that the characteristic is following the strict mendelian rules. The higher the incidence of a defect the less frequent become the cases with apparently negative histories. For the purpose of comparing observed and theoretical conditions it is possible to prepare a table to show the expected frequency of different types of family histories for any recessive characteristic whose incidence in the general population is known.

DISCUSSION

DR. TERRY: I would like to ask this question: Suppose one found a nulliplex individual with a recessive character, what would be the method in trying to distinguish whether it were a case presenting a mutation or whether it were a nulliplex with an ancestry of thousands of individuals in whom the trait did not appear.

DR. LOEB: It seems to me that Dr. Danforth's mathematical computations are very important. In animal and in plant experiments you can usually determine with great accuracy whether a certain characteristic is inheritable or not, because we can determine what mating is best to make; while in human cases, we are not in a position to make selective matings, and therefore we have to rely on a quantitative mathematical calculation. This has been lacking to a great extent so far and therefore we were absolutely in the dark as to whether certain diseases were hereditary or not in man, whereas in animals they are known to be hereditary. In animals there is no doubt that cancer is hereditary. In human beings there has always been some indication that it might be hereditary, but definite data were lacking because accurate mathematical calculations were not at our disposal. I believe that just such a mathematical calculation will help us very much to solve these problems.

DR. DANFORTH: In answer to Dr. Terry's question, I do not think that it could often be definitely determined in individual cases. This is a question that has been discussed quite thoroughly by students of animal and plant breeding. The probability is that

mutation occurs not in both chromosomes of a pair simultaneously but in only one of them, and consequently there may be many mutations in the general population which have not yet shown themselves and will appear, if at all, only as a result of intermarriage. For instance, if the fourth and fifth individuals in the chart had been sisters, descended from a parent in whom the particular mutation occurred, the character would not in this case make its first appearance until the fourth generation where there is an intermarriage among the descendants of the individuals in whom the mutation actually took place.

5. AN EXPERIMENTAL STUDY OF BONE TUBERCULOSIS.—By Drs. NATHANIEL ALLISON and DR. R. F. FISHER.

The object of these experiments was the study of the early stages of the growth of a tuberculous focus in bony tissue and on the joint surface.

Foci have been established in various localities of the bones of young dogs. The epiphysis and diaphysis of the femur; the knee joint; and the subperiosteal bone of the femur and tibia were chosen as proper and accessible regions for the location of foci. Operative technic was described.

Epiphyseal tuberculosis, 11 experiments; diaphyseal tuberculosis, 6 experiments; subperiosteal tuberculosis, 19 experiments, and tuberculosis of joint surface, 4 experiments, including one in a case of ankylosis of the knee joint. Microphotographs and lantern slides illustrating the growth of foci.

The lesions produced were never typical of tuberculosis as giant cells and epithelioid cells were not seen, but there was a striking polymorphonuclear leukocytic infiltration. On this account it is not possible from these experiments to draw any conclusions regarding the early stages of the growth of a tuberculous focus in bony tissue and on the joint surface.

DISCUSSION

DR. OPIE: Tuberculosis in dogs presents some peculiar characters. Spontaneous tuberculosis at times occurs but is uncommon. It is rather difficult to infect dogs with tuberculosis though typical lesions can be produced. These lesions, particularly when tubercle bacilli are present in large numbers, contain polynuclear leukocytes in larger numbers that are usually not found in more susceptible animals; if tubercle bacilli are injected into the pleural cavity of the dog, and particularly if the more virulent type such as the bovine is employed, polynuclear leukocytes accumulate in great number and there is a suppurative inflammation similar to the lesions that have been produced by Dr. Allison and Dr. Fisher.

Thirty-First Meeting—April 24, 1916

1. EXHIBITION OF CASES.

(A) THE BLOOD SUGAR IN DIABETES COMPLICATED WITH NEPHRITIS.—By DR. W. H. OLMSTED.

Two diabetics are presented, both showing complications and both suffering from nephritis.

The one, Mrs. J. W., is 64 years old, comes in complaining of ulcer on the foot. This is her second admission. On her first admission her tolerance was found to be 150 gm. carbohydrate. She presented on admission the evidence of a mild nephritis and pyelitis, a trophic ulcer on the foot and sensory changes over both legs below the knees.

The following table shows the relationship in the case between glycemia and glycosuria:

Date	Urinary Sugar	Blood Sugar %	Diet	Phthalein and Non-protein Nitrogen
			Gms. of Carbo-hydrate	
3-9-16	None	.32	40	3/6 phthalein 2 hrs. 40%
3-15-16	None	.11	10	4/15 non-protein nitrogen
4-15-16	None	.14	10	27 mg. per 100 c.c. blood

Is this raised threshold for glycosuria due to the coincident nephritis?

The second case, Mrs. R., came into the surgical ward suffering from an infected foot. It was soon found that she had diabetes. She seemed to be a mild case, from urine analysis, the sugar disappearing on a moderately low diet. But the infection did not improve; one sinus after another opened, healed, only to open again. At this time her blood sugar was estimated. The following table explains itself.

Date	Urinary Sugar	Blood Sugar %	Phthalein %	Non-protein Nitrogen Mg.	Diet
					Carbo-hydrate Gm.
4/3	0	.33	36	..	60
4/11	0	.25	20
4/20	0	.16	..	25	10

Coincident with the reducing of blood sugar the foot was opened wide and improvement and healing was as rapid as in normal individual.

Both these cases demonstrate at least the necessity of blood sugar examinations. Both were mismanaged until hyperglycemia, in spite of sugar free urine, was discovered. The question of the rôle of nephritis in causation of hyperglycemia must go unanswered until we can obtain more evidence.

2. A CASE OF FEMORAL ARTERIOVENOUS ANEURYSM CAUSING REMOTE VENOUS PULSATIONS.—By DR. A. O. FISHER.

I. Clinical Study.—The patient is a man, 35 years old, admitted to the hospital complaining of pain and swelling in the right leg. His family and past history are unimportant. He is a meat-cutter by trade; three and a half years ago he accidentally ran against a narrow-bladed knife which penetrated the right groin. The wound was immediately dressed and a bleeding vessel ligated. He was in bed two weeks and the wound healed promptly. In five weeks he was back at work and the leg gave him no trouble whatever. As soon as the dressing was removed, however, he noticed a thrill at the site of the scar. He stood ten hours each day at his work and felt no untoward symptoms until three weeks ago. He then noticed that the entire right leg began to swell. It was painful and constantly felt cold. At the same time the thrill became more marked and a rhythmical pulsation appeared in the neck, particularly on the right side. This was never noticed before. The condition of the leg became so bad that he went to bed. The swelling had largely disappeared when he entered the hospital, but there was still a distinct difference in the size of the two legs.

There was a slight prominence in the region of the right femoral ring with expansible pulsation, a continuous thrill, intensified during systole, and a very loud bruit which was heard as far down as the knee and up as far as the epigastrium. The dorsalis pedis artery pulsed normally. A diagnosis of arteriovenous varix was made, and in addition to all the classical signs there was a very marked abnormal venous pulsation in the neck, particularly in the right side. This was presumably due to arterial

pressure originating at the site of the varix and transmitted directly through venous channels to the neck. No such observation previously described has been found. Pressure at the site of the varix obliterated the communication and probably the femoral vein as well, and immediately all the abnormal signs and symptoms disappeared.

At operation the communication between artery and vein which was a direct one, was obliterated by ligation causing an immediate disappearance of all the abnormal signs including the pulsation in the neck. He was in bed two weeks and at the end of three weeks was walking.

II. Physiological Study.—By Drs. B. L. ELLIOTT and JOSEPH ERLANGER.

Polygrams were made by Dr. Erlanger and Dr. Robinson.¹ Continuous blood pressure records were made with the Erlanger sphygmomanometer by Mr. Elliott while pressure was so applied and released as to close the arteriovenous communication and then open it. The polygrams show two very sharp waves in each heart cycle. The second, or post-systolic, of these is so placed that it could not be derived from any normal or heretofore described abnormal wave originating in the heart. The first or pre-systolic, occupies approximately the position of the "a" wave of a normal venous pulse. Assuming the existence of an arteriovenous communication in the inguinal region, calculation shows that the time intervals between the primary pulse of the cardiogram and the postsystolic venous wave, and the dicrotic notch and the pre-systolic wave, are just about equal to those required for a wave to travel from the heart through the arteries to the communication and then through the veins to the jugular bulb. On applying pressure over the aneurysm, the two sharp waves disappear and are replaced by the normal "a," "c" and "v" waves of the jugular pulse.

Application of pressure over the aneurysm also causes a tremendous rise in blood pressure and slowing of the heart rate; release of the pressure causes a fall in blood pressure, and a return of the heart rate to normal.

DISCUSSION

DR. JOSEPH ERLANGER: I have not had an opportunity to go over the literature of this subject myself but Dr. Sachs says he has made quite a careful search and Dr. Fisher himself said this evening that he has gone over the literature. Neither has been able to find on record any statement that there is an abnormal pulse in the jugular vein associated with cases of arteriovenous communication. It is quite conceivable, however, that further search will bring such statements to light. I believe that an abnormal pulse in the jugular vein will be found wherever there is a free arteriovenous communication. The communication between the veins in the lower part of the body and the jugular vein is very direct. The inferior vena cava and superior vena cava join through the auricle in practically a straight line, so that any impact made on the veins of the lower part of the body must of necessity travel straight up through these veins and make its appearance in the jugular. If this abnormal pulse has never been noted before, it must be due to the fact that no one has ever thought that a pulse communicated to the veins in the lower part of the body could be transmitted to the jugular vein.

1. It was predicted by one of us (Erlanger) that if the case was one of arteriovenous communication the jugular pulse would contain waves transmitted through the communication to the venous system.

DR. G. CANBY ROBINSON: This patient and another one who will be mentioned illustrate clinical opportunities for investigating conditions that are very difficult to duplicate experimentally.

The question of why the pulse rate should change so suddenly is an interesting one. The connection between the artery and vein could be shut off apparently completely and there was a definite swelling of the heart with that shutting off, and it seems perfectly logical that the heart was having difficulty in adjusting itself to the increased pressure in the veins and in the right auricle. When the pressure in the veins was lowered by cutting off the communication between the artery and the vein, then the heart rate immediately dropped, within one or two beats, as Mr. Elliott has said, from a high rate to a low rate. It shows very well in the pulse record before and after operation, in which a sharp fall in rate is seen.

It seems to me a very beautiful demonstration of the effect that high venous pressure may have on the heart rate and how when the venous pressure falls the rate may fall.

DR. ERLANGER: I should like to ask Dr. Robinson if he is sure in his experiments that only one communication was closed; whether the artery below was palpated to make sure that the pressure closed only the vein and not the artery. I ask this question because the results, so far as the blood pressure is concerned, are exactly comparable with those that are obtained when a very large artery is occluded and not comparable with those obtained when a vein is closed.

DR. ROBINSON: I do not remember noting that point particularly at the time that we made the blood pressure observations, but the change took place after the operation and certainly during the operation the only communication between the artery and vein was closed.

DR. ERLANGER: But there, you see the case is clear; closing the communication under these circumstances is exactly the same as blocking an artery in a normal individual.

DR. ROBINSON: It seems to me the effect was on both. I believe it was the effect of change in blood pressure in arteries and veins that slowed the heart; that is my interpretation.

DR. ERLANGER: Mr. Elliott has been doing some work in the physiological laboratory on the effect of occluding arteries and veins. Closing the vena cava of the rabbit for instance, has very slight effects on the heart rate and blood pressure; closing the end of the aorta determined effects similar to those noted in this case.

DR. D. W. LUTEN: This may have some bearing on the question. While this case was in the hospital, I noticed this change in rate by pressure over the varix, and then tried pressure over the artery in the other leg. I do not know what effect it may have had on the blood pressure, but it did not change the heart rate.

DR. ERLANGER: It must be remembered that the effect of closing the artery on the normal side is wholly incomparable with the effect of blocking the artery on the abnormal side. On the abnormal side, the blood returns freely to the heart; through the communication the arterial blood pressure is low and the heart rate rapid. Closing the communication will therefore cause a far greater change in the arterial pressure and blood flow than closing the femoral artery in a normal individual.

DR. W. C. G. KIRCHNER: I was rather interested in the surgical side of the demonstration, inasmuch as I had occasion to operate on an aneurysm in the same location, extremely large but not of the arterio-venous type. The tumor was some 8 inches long by 5 inches in breadth and gave all the symptoms

of aneurysm. As Dr. Fisher has mentioned, there are certain surgical difficulties to be overcome in the treatment of these cases. In the first place, it is difficult with an aneurysm in this location to find a point of election for ligation or temporary control of hemorrhage, especially since the tumor has considerably changed the normal anatomical relations.

In the case I have mentioned, the operation was facilitated by retroperitoneal dissection and temporary ligation of the external iliac artery. This procedure permitted a better control of the hemorrhage which, however, was not completely checked. This aneurysm was of traumatic origin, and it is interesting to note that a knife-blade some 2½ inches in length was found in the sac, the individual having received the injury some two years before. The sac contained a large quantity of blood clot, and it was found that the femoral artery in Scarpa's triangle had a slit half inch in length and an eighth of an inch in breadth. This was sutured, and by Matas reconstructive method, the walls of the sac being inverted, a successful repair was effected. There was considerable pain following the operation, and the temperature, within four hours, rose to 101 F., and on the following day to 102 F., and then dropped back to normal. The pain in the extremity gradually subsided, and the patient was able to leave the hospital feeling comparatively well and later resumed his usual occupation.

3. A STUDY OF A HEART SHOWING AN ABNORMAL FOCUS OF STIMULUS PRODUCTION IN THE AURICLE.—By DR. DREW LUTEN.

The case under consideration is one showing ectopic auricular contractions, the form of the electrocardiographic curve indicating that the ectopic focus of stimulus production is in the part of the auricle near the auriculo-ventricular junction.

A discussion of the cause underlying the irritability of such a focus is not entered on at length, but a study of the case seems to show a vagus control over the occurrence of the ectopic beats.

The patient was in the hospital on account of an acute illness thought to be influenza, but the arrhythmia noted at that time had been observed quite incidentally before. The pulse was at times bigeminal, at times trigeminal, and at times quite regular.

The curves presented show a normal cardiac mechanism for the most part, with here and there a negative auricular wave. The ectopic beats are followed in some instances by a ventricular response, while at times they are blocked.

An attempt was made to determine the cause of the blocking, and also the circumstances attending the occurrence of the ectopic beats.

Under ⅓₀ grain of atropin the curves show that after about six minutes, coincident with a slowing of the rate, no ectopic beats occur. As the rate increases these beats appear, at first all blocked, appearing at shorter intervals in the parts of the curve showing a faster rate.

With a further increase in the rate the ectopic beats are followed at times by a ventricular response, and finally every third auricular contraction is ectopic and none are blocked. The duration of systole, as measured from the "R" to the crest of the "T" wave—an arbitrary point being selected—is shorter in the curves that show no blocking, and the later appearance of the ectopic wave, with the shorter systole, causing the auricular impulse to reach the ventricle at a later phase, is mentioned as a factor in the production of a ventricular response.

The last curve, under atropin, shows the ectopic beat occurring so late that the wave produced by it mingles with the normal "P" wave.

The form of the "P" wave is shown to have changed at the time of the slow rate and to have assumed its original form later in the experiment.

Under right vagus stimulation negative auricular waves followed by ventricular complexes occur; these are thought to arise in some other part of the auricle—the left auricle, perhaps—while the sinus region is inhibited. Then the ectopic beats under consideration occur (blocked) with greater frequency than at any other place in the curves, the sinus apparently being inhibited more strongly than the ectopic focus by vagus stimulation.

Vagus relationship to the occurrence of the ectopic beats then is shown by their behavior under vagus pressure and under vagus paralysis, though in neither case is the vagus influence as pronounced at the ectopic focus as at the pacemaker; the more frequent occurrence of the ectopic beats with the faster rate being exactly opposite to most cases of premature contractions.

DISCUSSION

DR. JOSEPH ERLANGER: I have been very much interested in Dr. Luten's report. There are perhaps a couple of questions that I would like to ask him. One is whether records have been made of the venous pulse in this case, and what they show. There is a possibility that the auricles are not contracting in proper sequence. An irregularity of this nature the venous pulse might bring to light.

The other question that suggests itself is as to why Dr. Luten has concluded that this is an ectopic contraction. Is it not possible that it might be a contraction originating in the sinus itself, an extra contraction of the normal pacemaker of the heart?

With regard to Dr. Luten's discussion of the blocking of the extra stimulus, as I prefer to designate them, is it necessary to call on any other factor than that the rate of stimulation of the ventricle by the auricle is increased. It is quite possible to get partial blocks, two to one rhythms at any rate, and even higher rates of partial block, by merely increasing the auricular rate; and it is quite possible that we are dealing here with a similar phenomenon, the two auricular impulses coming so close together that even in the absence of any ventricular disease or any change in conductivity the second impulse is not strong enough to cause a ventricular contraction.

DR. G. CANBY ROBINSON: This case was a very complicated one. Dr. Luten and I struggled with it for a long time.

There are a great many different problems in regard to the behavior of this ectopic focus that are interesting and still obscure. The question of the form of the record and the position of the focus, the point that Dr. Erlanger brought out, may be, of course, interpreted differently; but we accept as a working hypothesis that the negative P wave means a focus originating impulses in some part of the auricle not in the sinus region. Of course such a form might be due to one auricle contracting without the other but it seems that here, at least, the interpretation that we put on this case is really of considerable interest and importance. Here we have some point which is outside of the normal pacemaker which is generating impulses under some circumstances, quite rhythmically, and the study that Dr. Luten carried on was to show the influence of the vagi on this rhythmical, abnormal focus of stimulus formation.

The question of the relation of the abnormal beat to conduction or to blocking is quite complicated. It is found that sometimes the abnormal impulse is blocked, sometimes it is not, and one cannot get any very definite explanation for that change in conduc-

tion except the relation of the abnormal impulse to the preceding ventricle.

DR. LUTEN (closing): Replying to Dr. Erlanger's questions, we did not study the venous pulse to any extent.

As to the point of origin and why I considered this an ectopic focus, I am sure that Dr. Robinson's remarks are more enlightening than mine would be.

As to the cause of the block, the block here occurred with a slow rate. As the rate became faster under atropin, instead of the closer occurrence of stimuli piling up and causing a dropping out of the ventricular response the other fact was noted. Under atropin none of the impulses were blocked with the rapid rate; but with the slower rate, which also lengthened ventricular systole and lengthened, presumably, its refractory phase, the blocking occurred.

4. SUBLUXATION OF THE HEAD OF THE RADIUS. REPORT OF A CASE AND ANATOMICAL EXPERIMENTS.—By DR. C. A. STONE.

The basis of the paper was a boy in whom the subluxation of the radial head was sustained three times, once in the right arm and twice in the left. The first time the accident happened he was pulled across the floor with his left forearm extended, the second time he had the fingers of his hands clasped together and pulled the right radial head out. Lastly the left arm received the injury while he had his hands clasped in front of his knee, the forearm being flexed about 120 degrees. In each instance, the forearm was slightly flexed and the hand almost completely pronated with supination painful and resisted. Flexion and supination reduced the subluxation. A roentgenogram showed the head of the radius in the injured arm to be farther from the capitellum than in the uninjured.

This injury has been long known and much has been written concerning it up to 1889 with a total of 500 cases reported. Little has been written since then. Various theories of the pathology have been advanced, but that of Duverney became generally accepted. Later, Struebel, Van Santvoort, Morris and others by experiments on children's bodies proved it to be a slipping of the radial head, out of the annular ligament. The writers agreed that it could only happen with the forearm extended and that a contracted biceps prevented it. Also forced pronation was proved to be not a factor.

Why the hand was held nearly fully pronated but still permitting some rotation but no supination no one had been able to say. Some thought it was because the tuberosity of the radius had been caught behind the ulna.

Out of twelve experiments made by the author in the anatomical laboratory on adult arms the lesion was produced in six, in each of which the head of the radius slipped out of the annular ligament while the hand was pronated and during traction in the line of the radial shaft. The lower end of the ulna and its shaft was freed from the radius but the deformity remained. A knife blade could be slipped between the radial tuberosity and the ulna. The head of the radius was partly out of the annular ligament which was stretched very tightly, medially and laterally. When the inner part of the ligament was cut first, the head of the radius was loosened very slightly; when next, the outer part of the annular ligament, and the lateral ligament were cut the head of the radius was immediately set free.

Textbooks on anatomy give the shape of the head of the radius as round, but measurements of 100 of

them from the anatomical collection, show the diameter in line with the tuberosity to be greater than the other. The short diameter was the one held between the ligaments.

The reason the head of the radius slips out while the hand is pronated is because of a gradual slope from the neck of the radius to the head on that part of the neck which lies anterior in this position, so that the ligament stretches until it is suddenly brought over the head. With the hand supinated the ligament is pulled against a rise from the neck to the head which is sharp. In the cadaver, traction in this position always tore the ligament.

The main conclusions are: Subluxation of the radial head can occur while the biceps is contracted and the forearm flexed. It occurs only while the hand is pronated. The line of the force is in the main axis of the radial shaft. Supination is resisted because the tense lateral ligament forces the flattened side of the radial head against the anterior edge of the lesser sigmoid articulation and the inner attachment of the annular ligament.

5. THE INFLUENCE OF THE VAGI ON CONDUCTION BETWEEN AURICLES AND VENTRICLES OF THE DOG'S HEART DURING AURICULAR FIBRILLATION.—By DR. G. CANBY ROBINSON.

The results of a series of experiments performed on dogs are reported in which electrocardiographic records were made during vagus stimulation. The nerves were stimulated when the heart was beating normally and after auricular fibrillation had been produced by faradization of the auricles. The present paper reports a study of these records, which was undertaken to determine the relative effects of stimulation of the two nerves on conduction during auricular fibrillation and the relative effects of left vagus stimulation on conduction of impulses from the fibrillating auricles and of impulses from the normally beating auricles.

The experiments show that the effect of stimulation of the two nerves on conduction, which has been shown to predominate in the left nerve when the heart is beating normally, is apparently the same when the impulses are set up by the fibrillating auricles.

Left vagus stimulation is equally effectual in blocking impulses from the normally beating auricles and from the fibrillating auricles.

DISCUSSION

DR. JOSEPH ERLANGER: I would like to ask Dr. Robinson whether he has attempted to reconcile his results with that which Dr. Garrey has gotten in the study of vagus action in the turtle's heart. Dr. Garrey showed, I think conclusively, that in the turtle, where the two vagi have very different actions, the right causing stoppage of the heart, the left usually not causing stoppage of the heart under normal conditions, the difference in vagus action is not due to any inherent difference in the action of the two vagi, but is due entirely to the region of the heart on which the vagi act. If you slit the heart in half sagittally—so as to divide it into a right and a left side—the right side beats at a very rapid rate, and the left side beats at a very slow rate. Now after the heart has been split in this way, stimulation of the right vagus will stop the right side of the heart and stimulation of the left vagus the left, although in the normally beating heart, as I have said, stimulation of the left vagus may have no effect whatever on the heart rate. In other words, experiments of this kind—we cannot go into details—show very clearly that the different action of the two vagi in

the normal heart is not due to any inherent difference in the action of the two vagi but is due entirely to the region of the heart innervated by these two nerves and by the functional activity of these parts of the heart at the time the vagi are stimulated.

Now coming back to Dr. Robinson's experiments, I am going to assume that when the heart is fibrillating, impulses are starting in every part; not alone from the right side of the heart, in which the impulses normally start, but everywhere. Under these circumstances, on the basis of Dr. Garrey's experiments, both vagi would have exactly the same action, and we would, therefore, expect, it seems to me, that the results would be just what Dr. Robinson has found. There is no differentiation of function in the heart when it is fibrillating; whereas in the normal heart there is; the right side is determining the beats, the left merely responding.

DR. ROBINSON: In regard to Dr. Erlanger's point, I have assumed, as a working hypothesis, that the differences in the two vagi are due to their anatomical distribution and that the action of the vagi is the same, chemically or physically, or whatever the nerve action may depend on; but that the physiological difference is due to the difference in the structures on which the nerve has acted. But it seemed from previous experiments that the left vagus was more active in its effect on the conducting system than the right, and this difference seemed due to its anatomical distribution. Now I had not considered the point that Dr. Erlanger brings out, that the stimuli arise from all points when the heart is fibrillating, because my conception of it was that it did not matter whether the impulses were arising from various points in the auricles, they were all collected into the same conducting system to pass into the ventricles, and that the conducting system is, I thought, more under the influence of the left vagus than the right vagus. The hypothesis was not borne out by these experiments and the suggestion which Dr. Erlanger makes perhaps is the true one, as to why the two nerves act the same, as far as conduction goes, under these conditions.

CALLAWAY COUNTY MEDICAL SOCIETY

The Callaway County Medical Society met in Fulton at 11 a. m., in the Gem Theater, July 13, the president, Dr. A. J. Courshon, in the chair. The following members were present: A. J. Courshon, R. N. Crews, H. I. Owen, G. F. Rootes, C. B. Nichols, W. H. Williamson, J. B. McCubbin, G. D. McCall, C. H. Christian, E. L. Spence and Martin Yates. Visitors, W. T. Coughlin, St. Louis; J. G. Moore, Mexico, and E. L. Hume, New Bloomfield.

After the business session the society took a recess for dinner at the hotel.

At the afternoon session Dr. Crews of Fulton, read an interesting paper on "Gastric Ulcer," which was freely discussed by Drs. Coughlin of St. Louis, and Moore of Mexico, some of the members also participating in the discussion.

Dr. Coughlin of St. Louis, gave an interesting and scientific address on "Colles' Fracture" with lantern slide demonstration. The doctor discussed the mechanism of fracture, its pathology, the importance of the use of an anesthetic, and the necessity of proper reduction. He also described the various splints and retention apparatus. His presentation of the subject was considered by the society to have been very complete and valuable and was much appreciated. Most of the members present participated in the discussion.

There being no other scientific papers the society adjourned to the regular August meeting.

MARTIN YATES, M.D., Secretary.

CAPE GIRARDEAU COUNTY MEDICAL SOCIETY

The Cape Girardeau County Medical Society held its monthly meeting at Jackson, August 14, with ten members present.

Dr. Statler read a paper entitled "Treatment of Gonorrhea."

Dr. Poe read a paper on "Prophylaxis and Treatment of Infantile Paralysis." Both papers were well prepared and many good points brought out.

Questions touching on ethics and issues bearing on the profession in general were also discussed.

On motion the society adjourned to meet at Cape Girardeau, September 11.

E. H. G. WILSON, M.D., Secretary.

CASS COUNTY MEDICAL SOCIETY

The Cass County Medical Society met in Harrisonville, August 10, at 1:30 p. m., with the following members present: Drs. W. F. Chaffin, H. S. Crawford, A. R. Elder, R. M. Miller, M. P. Overholser, R. D. Ramey and J. S. Triplett. The meeting was called to order by the president, Dr. R. M. Miller. The minutes of the last meeting were read and approved.

This was another very interesting clinical meeting and the members who were able to attend were well rewarded for their efforts.

Dr. R. M. Miller reported a very interesting case of appendicitis, and all present discussed some of the atypical phases of the case.

Dr. W. F. Chaffin presented a very interesting clinical case of deformities following infantile paralysis. The doctor is to be commended for his efforts in this case as he brought the patient with him from his home in Raymore.

Dr. R. D. Ramey reported a case of myxedema. It was a difficult case to diagnose and was a very interesting report. He obtained excellent results from his method of treatment.

Dr. J. S. Triplett reported a case of nervousness bordering on insanity, which was very interesting. All cases presented were discussed by the members present.

A committee composed of Drs. Crawford, Overholser and Triplett, was appointed to arrange the meeting and program for October 12, at which time the society expects to entertain Drs. J. Franklin Welch and E. J. Goodwin. The Johnson County Medical Society is to be invited and members asked to contribute to the program from that society and give Drs. Welch and Goodwin an opportunity to address the Fifteenth Councilor District.

H. S. CRAWFORD, M.D., Secretary.

CLAY COUNTY MEDICAL SOCIETY

The Clay County Medical Society met in extraordinary session in the Snapp Hotel in Excelsior Springs the last Monday evening in July. On this date the society served dinner in five courses, entertained their wives and sweethearts and several guests of honor, the latter being Dr. J. Franklin Welch of Salisbury, Dr. and Mrs. Spence Redman of Platte City, and Dr. E. J. Goodwin of St. Louis. Other distinguished guests were eight members of the U. S. Public Health Service, now engaged in a sanitary survey of Clay County.

This dinner did the heart and soul good of every man and woman present. Dr. Welch made a splendid talk, followed by another from Dr. Redman, after which Dr. Yarbrough of the Sanitary Commission, explained the excellent work in which the government

is engaged for the physical betterment of its people. He said Clay County was selected, not because it needed investigation but because it was a model county.

Dr. F. H. Matthews, president of the society and president of the state board of health, presided at this meeting and called on several of the local members for short talks. Dr. J. T. Rice of Excelsior Springs, said he was glad to be designated as the local dispenser of harmony and that at present his stock had not been overdrawn.

It is to be regretted that Mrs. Welch, wife of our state association president, was not well enough to be present. A number of the local members were unable to be present; we missed them. The good words for the Clay County Medical Society were many and were appreciated. The next meeting will be at Liberty, the last Monday evening in August.

J. J. GAINES, M.D., Secretary.

HENRY COUNTY MEDICAL SOCIETY

The Henry County Medical Society met at State Hospital No. 3, Nevada, on Wednesday, July 19, the guests of Dr. Will P. Bradley, superintendent. As neither the president nor the vice president was present, Dr. F. M. Douglass nominated Dr. S. A. Poague to act as chairman. On vote Dr. Poague was elected to preside. Members present from Henry County were Drs. S. A. Poague, R. D. Haire, R. J. Jennings, T. A. Blackmore, W. Cline, R. J. Smith, E. C. Peelor, J. R. Hampton, S. W. Woltzen, B. B. Barr, A. E. Derwent, W. P. Bradley, N. I. Stebbins and F. M. Douglass; present from Bates County: Drs. C. J. Allen, J. S. Newlon, H. W. Insley, H. W. Tuttle and H. A. Rhoades; from Vernon County: Drs. E. A. Dulin, J. F. Robinson, C. G. Wilson, T. B. M. Craig, J. T. Hornback, J. M. Yater, W. R. Summers, G. W. Petty, J. W. Dawson, T. M. Bohannon, T. McLemore, Q. M. Brown and G. S. Walker. Visitors present: Drs. J. Franklin Welch, Salisbury; E. J. Goodwin, St. Louis; G. Wilse Robinson and Franklin E. Murphy, Kansas City.

The minutes of the previous meeting were read and approved.

Dr. W. P. Bradley, assisted by Dr. Summers, presented five cases of pellagra, one in a serious state of debilitation, and gave a short history of each case; nearly all of the cases were from the Ozarks. From what could be learned from them and their families, the diet had not caused the trouble. Gastro-intestinal disturbance, skin lesions and manic depressive minds were the common symptoms. They were placed on nutritious food as soon as admitted and castor oil and emetine with a dressing of ichthyol and glycerine or vaselin to dry the discharge on the abrasions. Dr. Bradley stated that in three and one-half years thirty cases had been admitted and two cases had developed in the hospital. He knew it was not the lack of cleanliness or the use of corn product food that caused those cases; all had milk and eggs with other good food and each one would get better as cold weather came, but showed signs of the disease as the warm spring approached. Had not used salvarsan because of high price. He believes pellagra is getting to be very common and we should study it closely and acquire a better knowledge of its cause and how best to treat it. Dr. G. Wilse Robinson said he had never treated a case and while we do not know the cause and its nature, we do know that it does have its influence on the spinal centers.

Dr. G. Wilse Robinson of Kansas City, read a paper on "Dementia Praecox," and by cases presented showed the effect and manner of action of

these cases, Dr. Dawson relating the history of those presented. The paper was a splendid history of the trouble, showing care and research in its preparation and a knowledge of the subject by close observation. Everyone present showed appreciation and understanding of it by the close attention paid to the reading.

Dr. Bradley discussing, said that 60 per cent. of those in the hospital were in this class and that nearly 25 per cent. of the inmates of the penitentiary were cases of dementia praecox; many are improved by treatment but he doubted whether a perfect cure ever resulted. He thought the spinal puncture was good treatment and had had Dr. Robinson operate on a case that was benefitted, yet he thought that some form of congenital work should be taught them for he knew that after education in some occupation was established here they became more cheerful and easier to deal with. Dr. Robinson in closing said he knew that education was a success and should always be used. He had learned that the family of a patient soon lose interest and almost forget them and the patient would lose interest in the home, people and former pursuits. There must be some toxin in the spinal fluid besides the quantity that we do not know as yet. When the fluid is above normal the patient refuses to eat and drink and becomes emaciated. Puncture shows good results by causing physical relaxation and a desire to eat and drink. All should be induced to drink water freely.

Dr. Franklin E. Murphy of Kansas City, read a paper on "Vagotonia," and by chart gave his views. This paper cannot be too highly commended. While it is not altogether new, it gave all that heard it a better knowledge of the term and what it means in the nervous system; why such regional pains were located at certain points and what they imply and how to recognize their influence on certain organs such as lungs, heart, stomach, liver, kidneys and genitals. It was interesting and instructive; so much so that a request that it be published in *THE JOURNAL* was made.

Dr. Robinson discussing, said he was pleased to be present to listen to such a good instructive paper. He knew that the building up of the system was caused by the good action of certain nerves, while others causes a disorderly state.

Dr. J. Franklin Welch of Salisbury, president of the state medical association, then spoke on "Medical Organization and Its Influence," giving some good advice to the younger members of the profession, claiming that the advance in education was making the doctors more skilful and better qualified. He urged that a spirit of good fellowship should prevail.

Dr. E. J. Goodwin, secretary and editor, gave a short history of *THE JOURNAL*, what good it was doing and how it was thought best to increase its influence and gain a greater share of the legitimate advertising to the medical profession. He told how each member could assist in the good work.

A resolution of respect was passed on the death of Dr. William M. Shankland.

The secretary announced the date of the next meeting to be August 9, at Clinton and the meeting adjourned until evening.

At 6:30 p. m., all gathered at the tables and enjoyed a dinner that, being so replete with good things, was commended by everyone.

Drs. Dulin and Wilson of Nevada, C. J. Allen and J. S. Newlon of Bates, gave expression to the great good of union meetings of medical men in a social as well as instructive way, the getting together and becoming better acquainted with all of our surroundings, and the benefit each one derived who took the time and trouble to be present.

F. M. DOUGLASS, M.D., Secretary.

PEMISCOT COUNTY MEDICAL SOCIETY

The Pemiscot County Medical Society met in the city hall at Caruthersville, at 3 p. m., Aug. 11, 1916. The minutes of the previous meeting were read and approved.

Dr. Mayes presented a very interesting case for our examination—a case of pleural effusion following pneumonia two years ago.

The discussion of our annual outing was then taken up and it was decided to have it on the river front in the cottonwood grove a mile and a half above Caruthersville, on Thursday, August 24. Drs. G. W. Phipps and M. B. Hendrix were appointed on the committee on arrangements.

The application of Dr. W. H. Denton of Hayti, was received, and on ballot he was duly elected to membership.

A discussion of delinquent members followed and a list was made, it having been decided to make a strong effort to induce all members to pay up. A list of non-members was also made up and an effort is to be made to get them to join.

J. W. JOHNSON, M.D., Secretary.

WEBSTER COUNTY MEDICAL SOCIETY

The Webster County Medical Society held its annual picnic on the banks of the James River at Crown, on Wednesday, July 12, 1916. The meeting was called to order by the secretary and Dr. J. W. Good was elected president pro tem. Drs. Highfill, Good, Bailey, Rabenau, and Bruce answered to roll call. The minutes of the last meeting were read and approved, as was the report of the treasurer.

Dr. D. A. Williams of Niangua was voted to be reinstated as a member of our county society.

Reports of cases were then taken up and a general discussion followed. Dr. Rabenau reported the summary of the state meeting held at Excelsior Springs, which was very interesting; also the new plans for working for the good of the state society.

We voted to hold our next meeting at Elkland, September 2.

The meeting adjourned to partake of a bountiful feast prepared by the ladies. Covers were laid for the doctors and Mrs. E. M. Bailey and two children; Mrs. M. Highfill and Mrs. J. R. Bruce and boys. After filling to our heart's content, we spent the afternoon in discussing all the latest ideas in the practice of medicine.

JOHN R. BRUCE, M.D., Secretary.

THE TRUTH ABOUT MEDICINES

NEW AND NONOFFICIAL REMEDIES

Since publication of New and Nonofficial Remedies, 1916, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

FIBRIN FERMENTS AND THROMBOPLASTIC SUBSTANCES (KEPHALIN).—The clotting of blood has been shown to be due to the action of the fibrin ferment on the fibrinogen of the blood. The fibrin ferment (thrombin) exists in the blood in the form of prothrombin which is converted into thrombin by the action of calcium and thromboplastic substance (thromboplastin). Kephalin, prepared from the brain, has the properties of thromboplastin. Preparations

containing thromboplastin are said to be useful, when applied locally, in the treatment of hemorrhages, especially hemorrhages from oozing surfaces, scar tissue and nosebleeds. The intravenous use of thromboplastin in certain conditions has also been proposed.

BRAIN LIPOID.—IMPURE KEPHALIN.—This is an ether extract of the brain of the ox, or other mammal, prepared according to the method of Howell and Hirschfelder. It has the properties of thromboplastic substance described above. It may be applied direct to the tissues or on sponges or pledgets, or it may be used in the form of an emulsion with sodium chlorid solution.

SOLUTION BRAIN EXTRACT.—Solution Thromboplastin-Hess.—An extract of ox brain in physiologic salt solution prepared by the method of Hess. It has the properties of thromboplastic substances described above. The solution may be applied directly to, or sprayed on the tissues or by means of a sponge or tampon.

GALACTENZYME TABLETS.—Tablets containing a practically pure culture of *Bacillus bulgaricus*. For administration in intestinal fermentative diseases. Put up in bottles containing 100 tablets each and bearing an expiration date. The Abbott Laboratories, Chicago.

GALACTENZYME BOUILLON.—A pure culture in vials of *Bacillus bulgaricus*, each vial containing about 6 Cc. Used internally for intestinal fermentative disorders and topically in nasal, aural, throat, urethral and other affections when the use of such a culture is indicated. Put up in packages of 12 vials each. The Abbott Laboratories, Chicago.

AMPOULES MERCURIC SALICYLATE-SQUIBB, 0.065.—Each ampule contains 0.065 Gm. mercuric salicylate, N. N. R., in 1 Cc. of sterile suspension. E. R. Squibb and Sons, New York.

AMPOULES QUININE DIHYDROCHLORIDE-SQUIBB, 1 Gm.—Each ampoule contains 1 Gm. quinine dihydrochloride, N. N. R., in 2 Cc. of sterile solution. E. R. Squibb and Sons, New York.

AMPOULES QUININE DIHYDROCHLORIDE-SQUIBB, 0.5 GM.—Each ampoule contains 0.5 Gm. quinine dihydrochloride, N. N. R., in 2 Cc. of sterile solution. E. R. Squibb and Sons, New York.

AMPOULES QUININE DIHYDROCHLORIDE-SQUIBB, 0.25 GM.—Each ampoule contains 0.25 Gm. quinine dihydrochloride, N. N. R., in 2 Cc. of sterile solution. E. R. Squibb and Sons, New York.

AMPOULES QUININE AND UREA HYDROCHLORIDE-SQUIBB, 1 GM.—Each ampoule contains 1 Gm. quinine and urea hydrochloride, N. N. R., in 2 Cc. of sterile solution. E. R. Squibb and Sons, New York.

AMPOULES QUININE AND UREA HYDROCHLORIDE-SQUIBB, 0.5 GM.—Each ampoule contains 0.5 Gm. quinine and urea hydrochloride, N. N. R., in 2 Cc. of sterile solution. E. R. Squibb and Sons, New York.

AMPOULES QUININE AND UREA HYDROCHLORIDE-SQUIBB, 0.25 GM.—Each ampoule contains 0.25 Gm. quinine and urea hydrochloride, N. N. R., in 2 Cc. of sterile solution. E. R. Squibb and Sons, New York.

AMPOULES QUININE AND UREA HYDROCHLORIDE-SQUIBB, 1 PER CENT.—Each ampoule contains 5 Cc. of a sterile 1 per cent. solution of quinine and urea hydrochloride, N. N. R. E. R. Squibb and Sons, New York.

AMPOULES SODIUM CACODYLATE-SQUIBB, 0.13 GM.—Each ampoule contains 0.13 Gm. sodium cacodylate, N. N. R. E. R. Squibb and Sons, New York.

AMPOULES SODIUM CACODYLATE-SQUIBB, 0.05 GM.—Each ampoule contains 0.05 Gm. sodium cacodylate, N. N. R. E. R. Squibb and Sons, New York (*Jour. A. M. A.*, Aug. 5, 1916, p. 586).

ARBUTIN-ABBOTT.—A non-proprietary brand complying with the standards for Arbutin N. N. R. The Abbott Laboratories, Chicago. (*Jour. A. M. A.*, Aug. 19, 1916, p. 586).

AMPOULES MERCURY IODIDE (RED) 1 PER CENT. IN OIL-SQUIBB.—Each ampoule contains 1 Cc. of a solution of red mercuric iodide and anesthesin, each 0.01 Gm., in a neutral fatty oil. E. R. Squibb and Sons, New York. (*Jour. A. M. A.*, Aug. 19, 1916, p. 586.)

PROPAGANDA FOR REFORM

CHEMOTHERAPEUTIC TREATMENT OF TUBERCULOSIS.—In the August issue of *The Journal of Experimental Medicine*, Koga, Otani and Takano report on a new treatment of tuberculosis and leprosy. Koga reports that the treatment of animals inoculated with a preparation of copper and potassium cyanide produces healing changes in tuberculous lesions. He also reports on the treatment of sixty-three cases and thinks that his preparation, which he calls "cyanocuprol," greatly improves or cures pulmonary tuberculosis in the first or second stages and even is beneficial in the third stage. Otani also gives a favorable clinical report of tuberculous cases. Takano treated cases of leprosy with "cyanocuprol" with what appear to be beneficial effects. The Japanese investigators give no clear statement in regard to the composition of the copper-cyanide preparation which they used (*Jour. A. M. A.*, Aug. 5, 1916, p. 443).

TARTAR EMETIC AND SODIUM BICARBONATE INCOMPATIBLE.—The A. M. A. Laboratory reports that when an aqueous solution of tartar emetic is added to a solution of sodium bicarbonate a clear solution results at first, but that on standing a precipitate of antimony hydroxide is formed (*Jour. A. M. A.*, Aug. 5, 1916, p. 462).

AMBRINE.—An article "War Letters of an American Woman," in the August 2 issue of *Outlook*, contains a glowing account of the use of "Ambrine" in the treatment of burns by a Dr. Barthe de Sandfort, Hospital St. Nicholas, Paris. Ambrine is a proprietary preparation which has been on the French market for years. It is a secret nostrum in that the proportions of the ingredients—"wax, paraffin and resin"—are not given. There is nothing original in an application of melted resin, beeswax and paraffin, although the correspondent of the *Outlook* seems to have been carried away with the idea that it is one of the great miracles of the day (*Jour. A. M. A.*, Aug. 12, 1916, p. 535).

SODIUM SULPHATE AS AN ANTIDOTE TO PHENOL POISONING.—Sodium sulphate in strong solution is one of the best known antidotes for phenol poisoning. At one time it was erroneously thought that the antidotal effect was due to the formation of sodium phenolsulphonate. It has been suggested that whatever action sodium sulphate has as an antidote for phenol may be due to some hindrance to absorption, and possibly also to added purgation. (*Jour. A. M. A.*, Aug. 12, 1916, p. 535.)

ASPIRIN.—The patent on aspirin will expire next year. The Bayer Company, the American agents, view with disfavor the prospect of losing the right to the sole manufacture of acetylsalicylic acid. This may explain the campaign of publicity which the Bayer Company has inaugurated in the lay press in which the public is urged to buy the Bayer brand of acetylsalicylic acid (aspirin) only. There can be no better time than the present for the medical profession to substitute for the non-descriptive name "aspirin" the descriptive and correct name acetylsalicylic acid. (*Jour. A. M. A.*, Aug. 12, 1916, p. 515.)

A STUDY OF "UTERINE" DRUGS.—Dr. J. D. Pilcher, W. R. Delzell and G. E. Burman, working in the Pharmacologic Laboratory of the University of Nebraska Medical School, have studied the action on the excised guinea-pig uterus of a number of drugs which are constituents of proprietary and "patent" "female" remedies; drugs for the value of which there is little evidence and which would have fallen into disuse but for their exploitation. The following drugs lessened the amplitude of the contractions of the uterine strips, or in stronger solutions caused a complete cessation: Unicorn root, pulsatilla, Jamaica dogwood and figwort. Somewhat less active were valerian and lady's-slipper. The drugs having very weak actions were wild yam, life root and skullcap. Blue cohosh was most active and put uterine strips in a state of tonic contraction or tetanus. The following drugs were quite inactive: black haw, cramp bark, squaw vine, chestnut bark, false unicorn, passion flower, blessed thistle, St. Mary's thistle and motherwort. The authors are confident that the actions observed would also be produced in the intact human uterus provided the drug reached the uterus in a similar concentration but that it is improbable that the concentration of drug used could ever be attained in the body. Work which is under way indicates that these drugs do not act specifically on the uterus but on smooth muscle in general and that this general action would overbalance any favorable action on the uterus. The authors conclude that the drugs examined are practically worthless and that their use is harmful as well as futile since such use tends to perpetuate therapeutic fallacies. (*Jour. A. M. A.*, Aug. 12, 1916, p. 490.)

RADIO-REM.—The Council on Pharmacy and Chemistry reports that those who are well informed on the subject of radium therapy are of the opinion that the administration of small amounts of radium emanation, such as those generated by certain outfits, is without therapeutic value. Having voted not to admit to New and Nonofficial Remedies any radium emanation generator which produces less than two microcuries of emanation during twenty-four hours, the council voted not to accept Radio-Rem outfit No. 3, Radio-Rem outfit No. 2 and Radio-Rem outfit C., each of which is admitted to produce less than 2 microcuries of emanation per day. (*Jour. A. M. A.*, Aug. 19, 1916, p. 631.)

OLIO-PHLOGOSIS.—The Council on Pharmacy and Chemistry reports that Olio-Phlogosis (The Mystic Chemical Co., Kansas City, Mo.) is not eligible for admission to New and Nonofficial Remedies. Olio-Phlogosis is to be applied externally by means of a cotton pad for pneumonia, bronchitis, pleurisy, etc. According to information sent to the council it consists of glycerine to which has been added small amounts of essential oils, iodine, resorcinol, boric acid, quinine bisulphate and sodium thio-sulphate. The council concluded that the claims for Olio-Phlogosis are unwarranted, that its composition is complex and irrational and that the non-descriptive and therapeutically suggestive name is likely to lead to uncritical use. (*Jour. A. M. A.*, Aug. 19, 1916, p. 631.)

NOVOCAIN.—Novocain was introduced about twelve years ago with the claim that it was from one-sixth to one-tenth as toxic as cocain. Hatcher and Eggleston have recently shown that the toxicity of cocain varies widely with different individuals and with the rate of its absorption into the circulation, and that novocain shows far greater variations. The authors are of the opinion that novocain has a distinct field of usefulness, but call attention to the fact that death has followed the clinical use of small doses and that toxic symptoms have been reported by numerous observers. (*Jour. A. M. A.*, Aug. 26, 1916, p. 685.)

QUALITY OF CHLORINATED LIME.—J. P. Street, chemist in the Connecticut Agricultural Experiment Station, reports that of twenty-five samples of chlorinated lime (bleaching powder) which, according to the United States Pharmacopeia, should contain "not less than 30 per cent. of available chlorin," only three were found of full strength. Eight contained but traces of available chlorin. This is a dangerous situation when it is recalled that the public as well as the medical profession puts great dependence on the disinfecting powers of this inexpensive material. (*Jour. A. M. A.*, Aug. 26, 1916, p. 695.)

BOOK REVIEWS

THE CLINICS OF JOHN B. MURPHY, M.D., at Mercy Hospital, Chicago. Edited by P. G. Skillern, Jr., M.D., of Philadelphia. Published bi-monthly by W. B. Saunders Company, Philadelphia.

This issue opens with a talk by Dr. R. C. Coffey of Portland, Ore., who was introduced by Dr. Murphy. Dr. Coffey spoke on "Certain Abdominal Operations." In the 170 pages comprising the issue there are talks on forty different clinical cases.

SKIN CANCER. By H. H. Hazen, A.B., M.D., Professor of Dermatology in the Medical Department of Georgetown University. C. V. Mosby Co., St. Louis, 1916. Cloth, \$4.00.

This monograph is a collection of the latest views on malignant tumors of the skin. As such it is well worth reading and study. The illustrations and microphotographs could be improved by better plate work.
R. S. W.

PRACTICAL MASSAGE AND CORRECTIVE EXERCISES. By Hartwig Nissen. F. A. Davis Co., Philadelphia. Price, \$1.50.

A small compendium of mechanotherapy, the result of the author's forty years of practical experience. It briefly explains the purpose of massage and outlines methods for treating certain symptoms. It is a useful handbook for the specialist in these lines but it is not particularly adapted to the use of the general practitioner.
E. E. M.

DISEASES OF BONES AND JOINTS. By Leonard W. Ely, M.D., Associate Professor of Surgery, Leland Stanford Junior University, San Francisco. Sextodecimo: 220 pages, 94 illustrations. Surgery Publishing Co., New York. Price, cloth, \$2.00.

This is a handy manual for the general practitioner and the senior student. It gives the essentials. The internist will hardly agree with the author in his statement that the etiology of lumbago and sciatica is due to sprain.
W. H. L.

DISEASES OF THE SKIN. By Richard L. Sutton, M.D., Professor of Diseases of the Skin, University of Kansas School of Medicine. C. V. Mosby Co., St. Louis, 1916. Cloth, \$6.50.

A well written textbook on diseases of the skin, useful alike to the general practitioner and the specialist.

Practical working bibliographies follow the description of each disease and are a very useful feature. The photographs and microphotographs are without doubt of a high grade of excellence, but poor plate work by the printers lessens their value. The book is highly recommended.
R. S. W.

THE CLINICS OF JOHN B. MURPHY, M.D. at Mercy Hospital, Chicago, April, 1916, published bi-monthly by W. B. Saunders Company, Philadelphia.

An illuminating talk on the "Surgery of Tendons and Tendon Sheaths," by Dr. Murphy opens this number. The talk is divided under the following heads: The Newer Anatomy; Tendons: Rupture; Luxation; Tumors; Wounds and Infections; Transference; The Tendon Sheaths: Inflammations; Tumors.

There are 176 pages in this issue in which are discussed a wide variety of surgical conditions. It is edited by Dr. P. G. Skillern, Jr., of Philadelphia.

THE HEART IN EARLY LIFE. By G. A. Southerland, M.D., F.R.C.P. Oxford University Press, American Branch, 35 West Thirty-Second Street, New York. Price, \$2.00.

This is the only work that covers in detail the clinical problems of cardiac disturbances and diseases during childhood and adolescence. It describes fully the normal outlines and functions of the infant heart and differentiates particularly between the functional disturbances which are so frequently given rather too serious consideration and actual disease which is often neglected. It is rich in cardiographic tracings and explanations of the tracings. The work is essentially practical.

E. E. M.

A MANUAL OF THE PRACTICE OF MEDICINE. By A. A. Stevens, A.M., M.D., Professor of Therapeutics and Clinical Medicine in the Woman's Medical College of Pennsylvania. Lecturer on Medicine in the University of Pennsylvania. Tenth edition, revised. 12mo of 629 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1915. Flexible leather, \$2.50 net.

This manual is composed of ten chapters, each embracing the treatment of diseases of the various systems. In each there is a concise discussion of the etiology, symptoms and diagnosis. The treatment is full and many good prescriptions appear in the text. The volume is modern throughout in every respect.

R. G.

DIAGNOSTIC AND THERAPEUTIC TECHNIC. A Manual of Practical Procedures Employed in Diagnosis and Treatment. By Albert S. Morrow, M.D., Clinical Professor of Surgery, New York Polyclinic. Second edition, thoroughly revised. Octavo of 834 pages, with 860 illustrations. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, \$5.00 net; half morocco, \$6.50 net.

This volume is composed of twenty-two chapters in each of which there is a clear, concise and brief discussion of the various diagnostic procedures in general as well as special fields of medical practice. The book is replete with illustrations throughout and each procedure shown in drawings representing each stage. On the whole the book is a good summary of accepted diagnostic measures.

R. G.

SURGERY, GYNECOLOGY AND OBSTETRICS, August, 1916.

The leading article in this number is a study on "Bone and Joint Diseases in Relation to Typhoid Fever," by Dr. John B. Murphy. An extensive investigation of the subject accentuates the importance of positive lines of treatment of the earliest manifestations of typhoid osteitis and periostitis and impresses on the surgeon the necessity of making a careful bacteriological examination of every case of bone or periosteal abscess in order to determine the definite etiological factor in the case.

Twelve other original articles, the department of technic, transactions of societies, abstracts and announcements of the Clinical Congress of Surgeons, make up the rest of this issue of 198 pages of reading matter.

GUN-SHOT INJURIES OF BONES. By Capt. Ernest W. Hey Groves, M.D., M.S. Oxford University Press, American Branch, 35 West Thirty-Second Street, New York. Price \$1.25.

This book, written not as a textbook, sets forth in an instructive manner injuries to the bones and their treatment during the present war as compared to other wars before the days of antiseptic and aseptic surgery. The author's view of the function of the periosteum in osteogenesis, the review of the triple blood supply of bones, the importance of two or more Roentgen-ray plates of all fractures, and the hastening of bony union, are treated in a very clear and instructive way. His method of applying splints, especially the double transfixion apparatus, and the article on bone grafts, show evidence of a master in the art of caring for all kinds of bone conditions requiring special surgical skill.

C. W. R.

ANNALS OF SURGERY, AUGUST, 1916.

This is a special number and contains papers read at the annual meeting of the American Surgical Association. The presidential address of Dr. R. G. LeConte on "Preparedness" is the leading article. Other articles are "The Surgical Lessons of the European War," by Dr. A. M. Fauntleroy; "Localization and Extraction of Projectiles and Shell Fragments," by Dr. Joseph M. Flint; "Methods of Handling Injuries on Transportation Systems and Wound Treatment," by Dr. Kenneth A. J. Mackenzie; "Chronic General Infection with the Bacillus Pyocyaneus," by Dr. Leonard Freeman; "A Further Note on Etiology of Surgical Scarlatina," by Dr. John B. Roberts; "Melanotic Cancer," by Dr. William B. Coley and Dr. Joseph P. Hoguet; "Observations on the Diagnosis and Treatment of Trifacial Neuralgia," by Dr. E. H. Beckman; "Dislocation of the First Cervical Vertebra," by Dr. A. F. Jonas; "A Method of Treating Cysts of the Breast," by Dr. Francis J. Shepherd.

THE MEDICAL CLINICS OF CHICAGO. July, 1916. Volume 2, Number 1. Published bi-monthly by W. B. Saunders Company, Philadelphia and London.

An instructive case of "Staphylococcic Osteomyelitis Developing as a Result of Infection from Teeth," in the service of Dr. Charles Louis Mix at the Mercy Hospital, very graphically points to the rôle played by diseased teeth in the causation of various conditions. In this case the patient developed a pain in the lower jaw in November, 1914. Neuralgia was diagnosed and a tooth extracted but the pain recurred in different parts of the body and the patient passed through a siege of visits to doctors, dentists, and chiropractors. Although the teeth had been examined and cleaned several times pyorrhea was not found for some time. After repeated dental and Roentgen examinations pyorrhea was found and the diagnosis made. The outcome will be a complete cure. Other articles in this number are "The Use of Digitalis," "Some Cases of Diabetes Mellitus with Complications," "Diabetes Mellitus with Acidosis," "Diabetes and Surgery; Diabetes and Pregnancy; The Treatment of Diabetic Acidosis," "Vomiting," "A Case of General Paresis," "Manic-Depressive Insanity or Recurrent Melancholia on a Basis of Dysthyroidism," "Peripheral Neuritis on a Specific Basis," "A Typical Case of Basedow's Disease," "Feeding the Normal Baby. Breast Feeding," "Oral Infections," "A Mediastinal Tumor—Probably Hodgkin's Disease," "Multiple Tubercular Serositis," "A Case of Bronchiectasis (Unilateral)," "Recurrent Thrombo-Ulcerative Endocarditis," "A Case of Intermittent Claudication," "A Case of Cerebrospinal Meningitis," "The Principles of Fluoroscopy of the Stomach," "A Case of Paraphasia."

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E. J. GOODWIN, M.D.,
EDITOR

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S. P. CHILD, M.D.
M. A. BLISS, M.D.

ORIGINAL ARTICLES

ANESTHESIA BY SELECTION*

• H. C. ANDERSSON, M.D.
KANSAS CITY, MO.

Gentlemen, in presenting this paper to you on the subject of anesthesia, I feel that I am in the position of the old warrior sadly beaten by his enemies, who exclaimed, "Stand back, you disciples of Aesculapius, and see a noble Roman die," in an attempt to present a few thoughts which may be of interest to you.

I am aware that the subject has been discussed from nearly every angle in the past ten years. I, therefore, do not intend to discuss technical details of administration, pharmacologic action of the drugs or other matters of that character. I wish to go over certain points of practical interest not only to the anesthetist but to the surgeon, the rhinologist and the general practitioner as well.

Anesthesia by Selection.—Under this heading we mean to discuss the principles which should guide the expert anesthetist in deciding on the anesthetic of choice in a given case.

The requirements of any anesthetic are, as Dr. Bevan has pointed out: (1) safety, (2) comfort, (3) efficiency, (4) control, (5) simplicity and general adaptability, (6) after-effects, (7) effect on immunity, tissues, pus organisms.

But besides these there are a number of factors which every anesthetist takes into account, whether consciously or unconsciously:

1. The operator, his habits and disposition.
2. The freedom of choice accorded the anesthetist.
3. The patient, past history and condition.
4. The operation, extent and circumstances under which performed.

* Read at the Fifty-Ninth Annual Meeting of the Missouri State Medical Association, Excelsior Springs, May 8-10, 1916.

I wish to consider these in brief before going further:

The Operator.—Fortunate indeed is the operator who has the services of an anesthetist who can distinguish between the stage of false anesthesia and surgical anesthesia. The experienced anesthetist should know the way that his operator likes to have the patient during the operation. I could name operators who wish from first to last to have the patient completely relaxed, and I could name others who like to have him fighting all the way. These peculiarities should be studied and it is surely the trait of a good anesthetist to give the operator what he wants in this respect. So far as the patient is concerned, neither of the two conditions named will be harmful, though I generally believe the patient will be less shocked when completely anesthetized.

In one class of operations it is worth remarking in this connection that the anesthetist becomes practically a surgical assistant. We refer, of course, to operations on the nose and throat, especially tonsils and adenoids. The control of the Pynction suction pump, the mouth gag and the tongue depressor may often be left wholly or partly in charge of the anesthetist and his assistant nurse.

It is the duty of every operator to see to it that the operating table with the patient on it be well balanced. By that I mean if the operator is skilled, successful and daring at one end, and an inexperienced or careless anesthetist at the other end, that particular patient is not getting his money's worth. An anesthetist has it in his power to aid in showing off the skill of the operator by understanding him and his patient, by playing the case as it should be, or he can make the best surgeon in the world look like an amateur. It appears to me that an anesthetic fee to an expert anesthetist is about the best insurance a surgeon can provide for his patient.

The Patient.—In general there are two types of operative patients—one the apprehensive, frightened, unnerved patient, and the

other the cheerful, laughing, utterly confident sort. Of these the first class do infinitely better than the second. This I believe is because that second class of patients have put on as a mask their assumed air of bravery. They are strung up. They are going to show how nervy they can be. They joke with the operator and anesthetist, and when the primary anesthesia has wiped out that pose you usually find a much higher nerve tension at bottom than in the apparently more apprehensive type.

The average surgeon and physician has the idea that ether is a heart stimulant and can do no harm in patients suffering from compensated valvular trouble. If it is in my power I wish to try and disabuse the surgeon's mind in regard to its harmlessness in heart lesions. I do not pretend to be a heart specialist, but I can state very emphatically that the statement usually made in the textbooks that a well compensated valvular lesion is no contraindication for anesthesia is distinctly untrue. It is true that cases of mitral insufficiency often but not always do well. But mitral stenosis and aortic insufficiency cases are bad, even grave risks. I have records of many cases of mitral stenosis which have done very badly under anesthesia of slight extent, even where the stenosis was apparently fully compensated, three of which died after short operations. I most emphatically refuse any such cases unless it is an operation of necessity or unless the situation is understood to be distinctly dangerous both by operator and patient.

I feel that an anesthetist's responsibility to a patient does not cease at the termination of surgical anesthesia. That a patient lives through an operation doesn't necessarily assure me that I have done my duty. A patient who presents himself with a well compensated heart lesion and goes through the operative procedure in an uneventful way, but who presents himself in the course of three weeks or a month with all the symptoms of incomplete compensation—I feel safe in saying that that patient was illy advised regarding the taking of an anesthetic.

The most important factor regarding the ultimate fate of the patient is the quantity of anesthetic in his system when he leaves the operating room, which must be destroyed and eliminated, so if the late effects of anesthesia are to be dismissed or done away with through efforts of the anesthetist, he must see to it that the least possible amount of anesthetic be given the patient. A concentrated mixture at the proper time during the period of induction diminishes the total amount of anesthetic required. A small amount of anesthetic given in concentration is much more efficient in inducing anesthesia than many times the same

amount of anesthetic given in such dilution as to prolong the induction period.

In safeguarding the welfare of your patient, the surgeon and anesthetist should always differentiate in their own minds and explain to the patient the difference between the operation of choice and one of necessity. The average patient will say to you, "Doctor, is there any danger at all?" This is about the hardest question to answer that I know of. We must admit that there is a risk involved in any operative procedure requiring general anesthesia. I refer particularly to the removal of tonsils and adenoids. This is strictly an operation of choice and a patient, as a rule, has an idea that tonsils and adenoids can be removed with no danger to himself whatever. I don't know of any procedure which requires any greater skill and manipulation than the administration of an anesthetic for a radical tonsil and adenoid operation. Patients who are going to subject themselves to tonsil and adenoid operations should always be advised that a hospital is the only place where it can be performed with the maximum degree of safety and comfort to the patient in the operative period and in the post-operative period as well. With the large experience that I have had in tonsil and adenoid anesthesia, and with the grief that I have seen following these procedures, I am firmly convinced that the radical removal of tonsils and adenoids is a major surgical operation as far as the patient is concerned. These remarks are included under the heading of "Patient" simply to show that his welfare should always be uppermost in the anesthetist's mind.

Now a few words regarding the use and abuse of morphin and atropin preliminary to any anesthetic. There is nothing that will aid a general anesthesia more than the proper timing and the proper selection of the amount of drugs to be used. The danger period of any anesthesia in 99 per cent. of all cases is in the induction period. I cannot impress it on you too strongly that an ill-timed hypodermic with the maximum physiological effect of the morphin taking place simultaneously with the surgical anesthesia from the anesthetic will always invite trouble. Hypodermic medication of any kind should never be undertaken unless the operator is advised of its administration. It is an absolute rule with me never to begin surgical anesthesia until the effect of the hypodermic has reached its height.

Morphin and atropin hypodermatically can be used to advantage one-half hour before general anesthesia, but it should not be used in every case and the dosage should not always be the same.

It is generally known that, while the action of morphin is generally constant, it sometimes produces the reverse of the result desired.

Instead of quieting the patient it produces excitement. Instead of producing sleep it adds to the nervousness. It is probable that the condition of the autonomic nervous system has something to do with the untoward effects of morphin. Elliot has shown that a reverse action of granular extracts occurs in organs in which the autonomic nerves predominate. Eppinger and Hess are of the opinion that the condition of the nerves controls, or at least modifies, the response to the organism to certain chemical substances. From animal experiments and from observations in man, it would seem that when morphin produces undesirable or reverse effects, the autonomic nervous system is in a state of hypersensitiveness. This is generally associated with a dilated pupil. It cannot be stated dogmatically that the pupil indicates the condition of the autonomic nervous system or that a contracted pupil contraindicates the use of morphin, but I believe that the pupil is our most reliable guide in using morphin. Harley, Loewig, Cushing, Waller, Scheidler and others have observed that in animals where morphin produces stimulation, irritability, increasing reflexes and convulsions as it does in mice, cats, frogs and dogs it causes dilatation and not contraction of the pupil.

Bottelli has shown that when morphin produces vomiting and diarrhea in animals, as it does in dogs and cats, it also produces dilatation of the pupil. I have observed the same phenomena in human beings and have come to expect a reversed action of morphin if it is given to a patient with contracted pupils and who is not suffering pain. I believe that the ancient dictum of Sydenham, that pain indicates morphin and is an antidote to morphin, should be observed. I believe that every patient who has pain before operation should be given morphin. Those who have no pre-operative pain and who have normal or dilated pupils should also have morphin, while the nervous and excited patient who has no pre-operative pain and whose pupils are contracted should have no morphin. By observing these rules I have had no untoward effects from morphin. The ordinary dosage is $\frac{1}{6}$ of morphin and $\frac{1}{150}$ of atropin.

In regard to the use of atropin I agree with Henbrach, Lenhartz, Bing, Wallmer and Servison, who believe that its greatest indication is to counteract the depressing effect of the morphin on the respiration, and we make use of it almost solely for this purpose.

The Operation.—The principal point I wish to mention under this heading is the extent and the length of the operation. If the operator is slow and deliberate the anesthetist must at once determine what form of anesthesia will be least harmful. For long anesthesia I consider drop ether by all odds the method

of choice. The induction of anesthesia may be made by some other drug, but sooner or later the anesthetist will change to the drop method in the course of the operation.

I cannot too strongly impress on you the importance of the Trendelenburg position whenever chloroform is used. I believe that chloroform is safe as a preliminary to ether providing a slight Trendelenburg position be maintained, and that the drugs which is being administered is in the hands of an experienced anesthetist. The only way with which to handle chloroform is drop by drop with plenty of air and to always be able to anticipate the effect of the drug one minute hence. In other words, the anesthetist should always be leading the procession.

Freedom of Choice.—With all these facts in mind, I feel that the anesthetist of experience should not be hampered by the surgeon in his selection of the kind and means of anesthetic. Of course, in the last resort, the surgeon's word is final. If he wants chloroform, the anesthetist must be prepared to give chloroform. But I wish to make a plea to consider the anesthetist as a consultant in cases where his experience justifies that attitude. Do not hamper him with orders.

Now to come back and consider under the headings of safety, comfort and efficiency the main anesthetics that we have at our disposal.

Safety first. That, of course, is the prime requisite of any anesthetic.

Comfort, however, is a thing that a surgeon should be able to assure to his patient, and efficiency goes without saying.

Ether.—Ether by the drop method is certainly, as all surgeons and anesthetists of great experience concur, the safest of all anesthetics. It has been pointed out again and again by Mayo, Murphy, Ochsner and Bevan that it has the fewest deaths and serious after-effects—even when given by an inexperienced anesthetist. I would be the last to disagree with this conclusion. But it may be pointed out that in emphasizing the safety of the method, in emphasizing the ease with which a tyro, a nurse, a medical student, a sister of charity, an intern, can induce anesthesia by the drop-ether method, the advantages are entirely on the side of the surgeon. He gets a safe anesthetic and gets it by using cheap labor. The patient who enters a modern hospital and employs an up-to-date surgeon certainly does not get all he could expect if he is put to sleep by a drop-ether method. It is the most uncomfortable of inductions. If you don't believe this, try it once.

If he can be put to sleep as safely by another method, as efficiently, and much more comfortably, he is certainly, in my opinion, entitled to it. I have expressed myself above very

emphatically about the safety of drop ether and its practical imperativeness in long operations.

I wish to go on record equally strong in saying that ether anesthesia should be preceded by some more comfortable method of anesthesia if the patient gets all he has a right to expect from modern medical service.

Gas and Other Preliminaries to Ether.—The danger period of any anesthetic is the stage of induction. This rule holds in the great majority of cases. For this reason my choice is emphatically for nitrous oxid as an induction method. Chloroform and ethyl chlorid are pleasant but certainly many, many times more dangerous than it, and simply because the nitrous oxid method is more difficult to learn and less handy to use is no excuse for their use. The big advantages that gas has over all others is that untoward symptoms in the induction period can always be met with safety. Artificial respiration and air, if properly manipulated, will always restore the patient. This is not true of chloroform and ethyl chlorid.

Gas Oxygen.—This is the anesthetic of the day. It is this form of anesthesia that has revolutionized not only surgical but dental procedures as well. Gas-oxygen anesthesia and gas-oxygen analgesia, if properly interpreted, are wonderful. We have in gas oxygen a safe and efficient substitute for "twilight sleep," for the woman in the throes of labor. It would be an injustice to compare the use of gas oxygen in childbirth to the use of that dangerous procedure called "twilight sleep." I wish to point out to the obstetrician and the general practitioner that he will find gas oxygen in obstetrics a wonderful help to him and a procedure which will spell comfort and safety not only to the mother but also to the child. The dentist who is equipped and can save his patient the pain of dental operations by the use of gas-oxygen analgesia is a valuable member of the community.

We have a host of machines on the market for giving a continuous gas-oxygen anesthesia. It is not the purpose of this paper to go into the pharmacology or physiologic pathology, or proper method of giving, or danger signals of the anesthetics discussed. Therefore, we will not dwell at length on the technical side of the gas-oxygen method. I do desire to point out some dangers of it and some respects in which the popular method of giving it seem to me at fault. In order not to be misunderstood, therefore, should it seem to you I am dwelling too lengthily, on adverse features of the gas-oxygen method, let me state most emphatically that I consider it a most valuable addition to one's anesthetic armamentarium. I can heartily quote the words of Dr. Bevan "that the hospital or clinic where gas is not used pretty extensively

is not giving its patients the best possible service."

Now a word about the machines. The simpler they are the better. In fact, in my opinion the best of all is to attach a Y tube to your Bennett inhaler bag and put an oxygen tank on one arm of the Y and a gas tank on the other, and turn the cock on either one of these tanks when and how far you like. The percentages and mixers on the machine plan are all right, but no machine can take the place of the expert anesthetist's judgment. The best place to mix your gas and oxygen, in my opinion, is in the patient's lungs. And with all due respect to all the machines, you can get a better anesthesia by watching your patient than by watching a steel dial.

One other point about the oxygen supply. Pure oxygen out of a tank is all right very early in the anesthesia, but after that period is passed the best source of oxygen is the air in the operating room. Nothing can take the place of plentiful breaths of air.

It is worth while remarking that gas oxygen is not quite so innocuous a form of anesthetic as would be expected. I have knowledge of three deaths from gas-oxygen anesthesia, all occurring in the performance of minor or dental operations. For this reason it is well to insist that a very even anesthesia in this form be used. When the patient is put clear off, then waked up by the operative procedure, and then put back to sleep again, the danger from gas oxygen begins, and I firmly believe that if a radical change in this respect does not soon occur, the mortality rate from gas oxygen will be higher than the mortality rate of ether.

Gas-Oxygen Novocain.—Of the many modifications of combined anesthesia devised to lessen the responsibility and work of the anesthetist, local infiltration of novocain and other chemicals is perhaps the most important. With the local infiltration method general anesthesia can be maintained in a very superficial stage throughout prolonged and serious operations. With the gas and oxygen the patient's mentality can be blotted out while his sense of pain is abolished by the local anesthetic, and then only the very much diminished muscular tonus remains to inconvenience the operator.

Intrapharyngeal Anesthesia.—No anesthesia is complete unless provision is made to use this most valuable form of anesthesia. Take the plethoric, short-necked, thick-tongued patient, who, with every breath, is laboring for air and is doing badly, who is cyanotic and who has large amounts of bronchial secretions to prevent the proper absorption of the ether vapor. Take a patient of this kind and introduce either a metal or a hard rubber tube back past the base of the tongue and you will find a startling

change come over the patient. The cyanosis disappears, the patient gets plenty of air and the anesthesia progresses in an uneventful manner. There is hardly any excuse for a patient under a surgical anesthesia to have the snoring respiration which is so characteristic of men, edentulous people and fat persons. The next time, during a surgical procedure, that you encounter a patient who is laboring for air, just try the introduction of this tube and I think you will find that you will be agreeably surprised.

The literature is too full of the irresponsible, easily obtainable, casual anesthetist. My objection to him is not based on any low ground of commercial competition. I stand for a certain pride in my work. I believe that the time will never come when a surgeon can afford to dispense with the advice of the anesthetist trained in his work, who will take the patient, and at a time of enormous nervous tension, will reassure him; will put him to sleep comfortably; will keep him asleep safely, evenly and completely, and will have him waken with as few disagreeable after-effects as are compatible with the severity, extent and completeness of the operation. And, gentlemen, in concluding, I will predict that when the great day of judgment shall have come and the Angel Gabriel shall stand with one foot on the land and one foot on the sea and proclaims that time was and time is and time shall be no more, the surgeon will still be calling for a competent anesthetist.

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DISCUSSION

DR. HERMAN E. PEARSE, Kansas City, Mo.: Ten years ago my emergency grip always carried two bottles of chloroform, two bottles of ether, though my work was as a general surgeon and I made no particular claim to training in that line. Ten years ago my ether cans used to lie full in my grip from year to year almost, but we filled the chloroform bottles fresh every time that I went out. Every one called for chloroform. But now I do not recall in the last two years of having uncorked the chloroform bottle for any doctor in the country. They have all gone over to ether, and the answer is not far to seek.

When we come to give anesthesia we usually consider the line of safety that lies between anesthesia and death. The margin of safety between complete relaxation and death in gas anesthesia is extremely narrow, and once your patient is ready for operation he is close to the Golden Shore. The margin of safety between chloroform anesthesia and death is doubtless wider than that between death and gas, but it is still narrow. The margin of safety between complete ether anesthesia and death is a wide one; long after your patient has reached the stage of surgical anesthesia, you can continue giving him ether in good large quantities, and he will resurrect himself when the ether is withdrawn. And that is the reason surgeons like ether and the reason we are all coming to use ether so much.

A word as to the use of atropin. Not long ago, my friend, Dr. Skinner, Roentgen-rayed a lady who had

had a hundredth of a grain of atropin and morphin, and on the findings he made a diagnosis of atony of the stomach. A day or two later, on checking up without the atropin and morphin, he found that she had a normal stomach. Any of you who have had experience with acute dilatation of the stomach following operation may well study the question of whether the atropin was the cause. While it does stimulate respiration it is not always recognized that it has a hindering effect on the maintenance of the balance of peristalsis.

DR. C. M. NICHOLSON, St. Louis: I believe the importance of anesthesia is not to be overestimated, and so long as I continue to do surgery I expect to continue to pay an expert to give my anesthetics.

There was one point the doctor left out when he spoke of giving the preliminary injection, namely, that the preliminary injection should be omitted in the extremes of life.

When six years ago, before this Association, I read a paper reporting 750 consecutive cases in which scopolamin-morphin was given as a preliminary to general anesthesia, fifty being followed by chloroform, the other 700 by ether anesthesia, some of you may remember that there were no small number who questioned the advisability of a preliminary injection. The paper was the cause of my receiving ten or twelve letters from anesthetists over the country, most of whom disagreed with me. But today I believe in practically every clinic, both in this country and in Europe, some preliminary injection is given.

Whether you give the morphin in connection with scopolamin, or hyoscin, or with atropin, is another matter. But one fact is certain, if I can judge from the entire number of cases in which I have had it given extending over a period of ten years, not having had a death from the anesthetic or the preliminary injection, there are three distinct advantages which seem to me to render gas unnecessary as a preliminary to a general anesthetic. First, nervousness on the part of the patient is overcome. Second, the amount of anesthetic is lessened by one-half. Third, it prevents bronchorrhea.

I seldom use chloroform. Since the cases reported before this Society, I do not think I have used it except in the extremes of life, a half-dozen times.

In patients who have had the scopolamin-morphin, or hyoscin-morphin, given not immediately before but three-quarters of an hour or an hour before operation, I feel it is reasonable to expect an absence of bronchorrhea, of all the nervous symptoms, and an ability to keep that patient well relaxed under ether with half the quantity that would otherwise have been used; also a lessening by 75 per cent. of postoperative vomiting.

DR. H. C. ANDERSSON, Kansas City, Mo., closing: Regarding the use of scopolamin-morphin, the main thing in my mind is always—what does that patient carry with him when he goes to his bed, how much of the anesthetic has done him harm? The doctor says he thinks there is something wrong when his anesthetist uses more than half a can of ether, that the scopolamin-morphin did not work; but the point is that in using that drug you are complicating your anesthesia. You cannot interpret the pupillary reflexes when you have added scopolamin-morphin to ether, and I do not believe it is possible for the anesthetist to safeguard his patient as he could without using the scopolamin-morphin. I am absolutely against complicating surgical anesthesia by the use of drugs, excepting in selected cases, as I tried to point out. I do not believe that the nervous patient nor the contraindicated patient should be given morphin.

TRANSITORY CARDIAC DILATATION FROM OVERSTRAIN*

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Transitory cardiac dilatation from overstrain has not been given the consideration it deserves in the literature or in textbooks. It may be defined as a temporary increase in the size of the heart, due to an enlargement of its cavities, produced by overstrain and not necessarily displaying the phenomena of ruptured compensation. Overstrain, as is well known, is an important factor in producing dilatation in diseased hearts, that is, hearts having valvular lesions, endocarditis, myocarditis, fibrosis, etc. The effects of overstrain in hearts that are apparently healthy, that is, free from clinically detectable organic lesions, producing symptoms and signs that probably can be attributed to transitory dilatation, seems not so well understood or given much attention. And it is in this class of cases where the cardiac symptoms are not always prominent, or the physical signs always present, that I wish to discuss in the hope that it will arouse greater interest and more study.

The conception of cardiac overstrain was first introduced by Stokes¹ in 1854. Later studies by Da Costa, Hartshorne, Meyers, Peacock and Allbutt confirmed Stokes' conception. Da Costa's article, "The Irritable Heart of Soldiers,"² was the most complete of the early studies. He gave most careful detailed symptoms and signs from overstrained hearts and showed how these symptoms and signs disappeared on rest and returned on exertion in many cases. He mentions diarrhea as occurring previously in many cases, which may have been typhoid, with resultant myocardial change. Hirschfelder³ devotes a few pages to cardiac overstrain, and includes under this chapter "Transitory Dilatation." In 1864 Hartshorne,⁴ writing on heart diseases in the army, "muscular exhaustion of the heart," says: "Exclusive of a very few instances of valvular disease and a few more of pericarditis, with effusion, and several of dilatation with hypertrophy, there yet remained two other classes of heart derangements in our army wards. One not rare anywhere was palpitation or functional disturbance of the heart's action, but lastly the largest number of all must be separated from these, and may be properly designated so far as I understand them as cardiac muscular exhaustion."

Mackenzie,⁵ writing in 1916 on the soldier's heart, or irritable heart, gives a classic descrip-

tion of symptoms produced from overstrain and speaks of temporary enfeeblement of heart muscle, but does not consider transitory dilatation. In Mackenzie's third edition⁶ he states that "severe strain or strains inevitably find out the impaired heart, whether the impairment gives rise to physical signs or not." He further says: "It is a confident belief that dilatation of the heart is a frequent occurrence even in healthy people who may have been subjected to some severe bodily effort, and it is supposed to be particularly common in young people who indulge in strenuous games." He does not consider it of any importance when occurring or supposed to have occurred in the young and healthy. Vickery⁷ states that "habitual, severe and sustained physical exertion may eventuate in cardiac dilatation, as seen in both athletes and in men following laborious occupations. Dilatation may indeed ensue on a single violent or prolonged muscular effort. In many cases it is presumable that the myocardium was previously in a vulnerable condition, yet dilatation may occur in young and apparently healthy men after mountain climbing and after a period of rest be completely recovered from." Krehl⁸ says that dilatation may occur in untrained people on unusual exertion. In healthy people cardiac insufficiency lasts only a short time after bodily exertion. Anomalies of heart beat or dilatation may disappear, but distress may last for some time, due to increased irritability. Healthy people when overexerting may cause some damage, which does not last.

Physiology of Exercise.—To understand effects of overstrain, it is necessary to understand the effects of moderate or ordinary strain or exercise. According to Hirschfelder,³ an increased amount of CO₂ is given off from the muscles in all muscular work, which acts as a hormone, setting into play the following physiologic mechanisms:

1. Vasodilation in the muscles, diverting four or five times as much blood through this channel.
2. Acceleration of the heart, at first through diminution of vagus action and in later stages of prolonged severe exercise, chiefly through stimulation of accelerators.
3. Vasoconstriction, especially in the splanchnic vessels, which tends to counteract the effect of the vasodilation in the muscles.
4. Stimulation of the augmentor fibers, and perhaps the heart muscle directly, causing an increased force of contraction and an increased systolic output. Stimulation of the augmentor fibers also as a rule cause increased cardiac tonicity. The heart of the trained athlete is habitually throwing out an amount of blood

* Read at the Fifty-Ninth Annual Meeting of the Missouri State Medical Association, Excelsior Springs, May 8-10, 1916.

1. Stokes: Diseases of Heart and Aorta, 1854.

2. Da Costa: Amer. Jour. Med. Sciences, 1871.

3. Hirschfelder: Diseases of Heart and Aorta, 1913.

4. Hartshorne, Henry: Amer. Jour. Med. Sciences, 1864.

5. MacKenzie, James: British Med. Jour., January, 1916.

6. MacKenzie, James: Diseases of Heart, 3rd Ed.

7. Vickery: Sajous, 1916, v, p. 65.

8. Krehl, Ludolph: The Bases of Symptoms, 2d Ed., 1913.

suited not to the needs of the moment, but to the needs of the periods of exercise to which he has accustomed himself. In normal but untrained young men the heart must meet the demands suddenly put on it; this is shown by the marked increase in blood pressure and rapidity of pulse; for example, the pulse rate was little increased and the blood pressure slightly decreased in trained Marathon racers in Boston in 1900. Quite different, however, in the results of long-distanced races run by amateurs. Dr. R. T. Abercrombie found after a 20-mile race by amateurs the pulse was almost in every case too feeble to be counted, as also were the heart sounds; neither could the blood pressure be satisfactorily estimated. Orthodiagraph showed dilatation in all. Within an hour after the finish they were all feeling quite active.

Barringer's summary on the Circulatory Physiology of Exercise⁹ is that carbon-dioxid content of blood is increased by muscular work, and this stimulates the nervous centers controlling the suprarenal glands. An increase in adrenalin content of the blood is thereby produced, which causes a constriction of vessels in the splanchnic area and a resulting rise in blood pressure. The quickened heart beat accompanying muscular work causes an increase in the quantity of blood discharged by heart per minute, and this also contributes to the rise in blood pressure. The size of the heart during exercise seems dependent on its tonus.

Schott¹⁰ has claimed to have seen cardiac dilatation in healthy wrestlers and bicycle riders. This fact has been disputed by a number of observers, who showed that exercise, even to the point of exhaustion, does not bring about cardiac dilatation in otherwise healthy men. In most cases of these experiments the Roentgen ray and orthodiagraph showed an actual diminution in the volume of the heart, probably indicating increased tonus.

Factors in Dilatation.—Sahli¹¹ states that every heart chamber which suffers an increase of pressure during diastole becomes enlarged (primary dilatation). Frank¹² has shown that moderate increase in intraventricular pressure acts as a stimulus, causing an increase in force of next beat; this, however, reaches an optimum beyond which the contractions become much weaker. The amount of blood which enters the ventricles depends probably on venous and intra-auricular pressure and the tonicity of the heart muscles. Where tonicity is high, a comparative high venous pressure will be withstood without overfilling or dilating, whereas when tonicity is low it readily overfills or dilates. The factors, then, of dilatation seem to be dependent on tonicity or hypotonic

condition of heart muscle, for observers as above have shown that severe strain, exercise even to point of exhaustion, does not produce dilatation where tonicity is good, that is, normal or above normal. The fact of the heart decreasing in size during or immediately following overstrain speaks probably for hypertonic condition.

Tonicity of Cardiac Muscle.—Tonicity, according to Brubaker,¹³ is a condition of muscle characterized by a slight degree of contraction, which varies in extent from time to time under physiologic conditions. This tonicity not only resists undue extension, but permits of a quicker response to stimulus and a more effective performance of work. Efferent vagus impulses effect tonicity, sometimes depressing and sometimes increasing it. Cameron¹⁴ found that digitalis, strophanthus, nitroglycerin, calcium salts in small amounts increased cardiac tonicity in the dog through tonic fibers of the vagus, while large doses exerted direct effect on the cardiac muscle. Atropin causes a primary depression of tonus as the vagi become paralyzed, which is followed by an increase in tonicity from direct action of the heart muscle. Potassium salts, formic acid and adrenalin depress tonicity.

The tonicity of the heart muscle being dependent on either extracardiac nerve impulses or ability of the muscle itself to respond, or both, and this quality of tonicity being variable under physiological conditions, I can think of no better theory in explanation than an internal secretion which also varies from time to time. I do not wish to enter into the confusing field of the internal secretions, but simply to state that probably adrenalin, and possibly thyroid, are important factors in maintaining, increasing or decreasing tonicity of cardiac muscle. Adrenalin raises the blood pressure, slows the heart, contracts the vessels (except coronary), stimulates the sympathetic and is supposed to decrease tonicity. It also seems to vary in amount according to bodily work, increased oxidation, psychic state, as emotion, etc., and patients with overactive sympathetic systems are very sensitive to small doses of adrenalin. There is a similarity in the recorded symptoms of the untoward effects of adrenalin and cardiac overstrain that is impressive. The double action of adrenalin in constricting blood vessels and relaxing involuntary muscle fibers, as in the intestines, is significant. Thyroid secretion increases oxidation and metabolism, activates the suprarenals, increases the irritability of the heart, palpitation, tachycardia, paralyzing vagus, stimulating accelerators. This secretion is also variable, as clinical observers must admit. As tonicity of

9. Barringer, Theo. B., Jr., Arch. Int. Med., March, 1916.

10. Schott: Acute Overstrain of Heart, Jour. A. M. A., 1907.

11. Sahli's Diagnostic Methods, 2d Ed.

12. Frank, O.: Sahli's Diagnostic Methods, 2d Ed.

13. Brubaker's Physiology, 3rd Ed.

14. Cameron: Johns Hopkins Hosp. Report, 1911.

the heart varies under normal conditions, it must necessarily vary under strained conditions, and, as tonicity is the most important factor in dilatation, it offers a better explanation why some hearts become smaller and more hypertonic, while others under practically the same strain become dilated, hypotonic, than does the mechanics of overstrain. The effect of adrenalin and thyroid on the tonicity of the heart, and its power of increasing susceptibility to dilatation is a problem we are interesting ourselves in.

Predisposing Factors. — Temporary partial exhaustion of cardiac muscle, either in itself as a result of overwork or deficient nourishment, or as a manifestation of general exhaustion, is a most important predisposing factor. Previous infection is a most important predisposing cause, and I might state that a careful history is the most valuable and oftentimes only means of eliciting facts of previous infections. This includes practically all infections, not simply rheumatism, lues, tonsillitis, typhoid or pneumonia. Infection does not necessarily mean an endocarditis or myocarditis, for I am not discussing these cases, but a history of frequent or severe infection may have been the cause for overstrain, with resulting weakness or deficient tonicity. This deficiency has been noted time and again by simple functional tests in ordinary cases of influenza, tonsillitis, pyelitis, etc. The previous state of health, operations, accidents, exhausting illness, hemorrhage, bodily function, physical endurance, hypersensibility, excitability, heart flutterings, emotions, excesses—sexual, alcoholic, tobacco, coffee, overeating, drugs—loss of sleep, increased care, gymnastics and various strenuous athletics, long-distance running, climbing, rowing, swimming, anger, despondency, worry, stress of business; previous overstrain, hyperthyroidism and tachycardia, thoracic and abdominal constriction, as tight belts, uniform corsets and intra-abdominal and intrathoracic tumors, effusions, etc., which displace the heart, may predispose to overstrain. Visceroptosis is also a factor. Occurrence is oftentimes in the young, well-built, large-framed individual, as in athletes, soldiers, swimmers, racers, oarsmen, laborers, especially doing heavy and straining work, as miners, metal workers, moulders, blacksmiths, etc., and in business men under stress and strain. I have seen a number of cases in women, mostly swimmers.

Meyers¹⁵ shows very conclusively that diseases of the heart are of more frequent occurrence among soldiers than in civil population, and the disability among them from this cause was greater than among sailors or the London police. He also demonstrated that diseases of the heart in the army cannot be attributed in the great number of cases to rheumatism, nephritis or violent manual labor.

Asthenic individuals, by reason of their deficient cardiac musculature and tonicity, are prone to attacks of dilatation.

Symptoms and Signs.—Onset occasionally arises suddenly, following or during overstrain. Again, the patient may feel perfectly well until the day of overexertion, then feel ill for a variable period, and apparently well again until another day of special strain, when symptoms are more marked and persistent.

Tiredness is a frequent complaint; weariness on least exertion, dyspnea on slightest effort or following meals, pericardial oppression and pain. Often the only complaint is tiredness and palpitation on least exertion, or noticeable rapidity of heart after eating. Occasionally palpitation occurs without exertion, as at night, so described fatigue in daytime, thumping of heart at night. Dizziness, dull headache on bending or stooping, flushing of face, cold hands, giddiness and faintness occur; sleeplessness, tympanites and diarrhea are not uncommon; persistent tachycardia without dyspnea. Symptoms of so-called neurosis and neurasthenia often are prominent and misleading. Slight edema of ankles occasionally noted. The symptoms often persist after all signs of dilatation have disappeared. Pulse is usually rapid, 110 to 160; small, feeble, regular, with at times a tendency to irregularity; this irregularity in force and rhythm is made more prominent by moderate exercise. Pulse is greatly accelerated by standing or walking and the rapidity persists. Radial pulse may be less than heart beats; rarely pulse is slow. Blood pressure variable; as a general rule there is increased systolic and pulse pressure. If exercise is so severe that fatigue ensues, blood pressure falls. I have been impressed with the variation in blood pressure, some high, some low. Frequently large, well-built men, having symptoms of cardiac overstrain, have had low systolic pressure, 100 mm. Hg. and pulse pressure of 20 mm. Hg.; probably a myocarditis existed or deficient vascular tonus. Tenderness over cardiac area is occasionally found; pain may be produced in some cases by exertion. The cardiac impulse may be heaving and powerful, or may be imperceptible. The apex may or may not be displaced.

Percussion.—The area of relative dulness may be increased to the left downward and upward and often to the right. This dulness, according to Hirschfelder,³ may have passed off before seen by physicians. The area of absolute cardiac dulness may be increased, and when it is it usually indicates dilatation.

The sources of error in outlining cardiac area are so numerous and misleading that the method is not of much value in these cases where enlargement is slight. Position of the heart varies with position of body. Size of heart varies with stature, when weight is proportional to

15. Meyers, Arthur: Amer. Jour. Med. Sciences, 1871.

stature, also age and sex. It varies also in size and shape according to size and shape of chest, spine, position of the diaphragm, etc. Individual standard of normal is necessary. The drop heart of visceroptosis may by overdistention increase 4 to 6 cm. in its transverse diameter, and still appear quite normal on percussion. Shattuck¹⁶ emphasizes importance of skillful physical examination and careful history as a means of discovering abnormality in the circulatory system, and slight signs of enlargement of the heart. When findings are inconclusive, he further states an examination with the fluoroscope, Roentgen-ray orthodiagram, or a teleoroentgenogram may provide important information by showing abnormality in the outline or measurements of the heart. Even with good technic none of these methods are faultless and normal heart size is variable.

Auscultation.—Heart sounds may be feeble, distant, short or sharp. Murmurs, systolic and diastolic may or may not be present. Soft blowing systolic murmurs are generally spoken of as being heard at left base or over tricuspid area. Pulmonic second sound usually is accentuated. West¹⁷ speaks of dilatation murmurs, for they come and go with it. He states that "murmurs are audible eddies; eddies represent loss of power. An extraordinary fact is that the blood circulates through the normal heart and vessels without producing murmurs. In the dilated heart the normal relations between the orifice and cavities are changed, so that the blood no longer passes in the usual uniform stream, but is driven here and there through dilated cavities and so produced the requisite eddies." The wonder of murmurs is that they are not more common.

Healthy hearts, according to MacKenzie, in the young can exhibit murmurs which are physiologic in origin and indicative neither of disease nor impairment.

Functional Tests.—Functional tests of cardiac efficiency are more valuable than percussion or auscultation. Even in the presence of murmur, if the test for efficiency is normal, the murmur can be considered of minor importance, for if the cause which produced the murmur embarrasses the heart in its work, the heart chambers will increase and its functional efficiency be impaired.

Heart efficiency is best judged by how it responds to effort. The importance of the physiological variation on the normal heart should be understood. Serious disorders are practically always associated with diminution of functional efficiency. The natural standard of cardiac strength varies in each individual as in general body strength; one healthy individual can do

more than another without experiencing symptoms of cardiac distress. Records of patients' cardiac efficiency by simple tests should be kept as a part of the history, so that future weakening or decrease in the normal standard may be detected. A study of tonus as an indication of efficiency should be made, for example, vagotonic individuals are more susceptible to vagus irritation, such as pressure in neck, whether their pulse becomes slower on moderate exertion. Increased sympathetic irritability is easily determined by a drop of adrenalin in the eye which causes mydriasis in the so-called sympathotonic, or a vasomotor irritability, for example, blanching of skin, on rubbing.

Respiratory Tests.—Holding the breath after deep inspiration and patient counting on expiration normal averages about thirty seconds, in cardiac insufficiency only eight to ten sounds. Of course, this must exclude lung conditions. Richter's record of heart cases at the hospital showed an average of ten seconds, which increased to twenty-five seconds on rest, and decreased on exertion. One patient on entrance held his breath for only six seconds, while after twenty-four hours' rest he could hold it for eighteen seconds. The rise in pulse which occurs when the patient stands after lying down is of some importance, especially as to the time required for it to return to the original rate on resuming recumbent position. Normally there is a rise of twenty beats per minute, which decreases on lying down again. Strained hearts show a great rise in the rate—twenty to fifty beats or more—and the return to original rate is much delayed.

The effect on the pulse of various exercises, as of arms, legs, bending, antagonistic movements, as pulling against force, in normal hearts is not noticeable, but in deficient hearts it increases the beat considerably, unless possibly in vagotonic individuals it slows the pulse.

Blood pressure is also an indicator of cardiac efficiency. Walking up and down stairs rapidly or jumping will increase the blood pressure in normal individuals, and cause a decrease in weakened or failing hearts. The size of the heart after exercising is important, especially where accurate methods for determining its size before and after are at hand; for example, an increase in size would indicate decreased tonicity, while decrease in size would indicate increased tonicity.

Barringer⁹ believes that making frequent readings of pulse rate and systolic pressure after measured amounts of work forms the key to the problem of determining the heart's efficiency. He found in measured moderate work on bicycle ergometer and dumb-bells a rise in blood pressure and pulse rate in normal individuals, and a delayed rise after heavy work; while in cardiac insufficiency he found a fall

16. Shattuck, Geo. C.: Boston Med. and Surg. Jour., March, 1916.

17. West, Samuel: British Med. Jour., June 20, 1914.

and delayed rise in blood pressure in small amount of work.

TREATMENT SUMMED UP IN GENERAL

Prevention of serious damage by early recognition of condition and causes for overstrain, and their avoidance, increasing bodily efficiency and general strength, toning up the whole man physically and mentally is necessary. Rest is necessary, of course, while symptoms persist, yet these patients should not be kept in bed too long. Graduated exercise with intervals of rest; increasing the exercise and decreasing rest. Outdoor exercise that affords pleasure, as in games, is preferable. Avoidance of over or injurious medication. Respiratory stimulants, as camphor, strychnin, etc., may be indicated. Venous suction may be valuable.

Frisco Building.

ON THE DIAGNOSTIC VALUE OF RESPIRATION TRACINGS (PNEUMOGRAMS).*

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ST. LOUIS

Clinical observation furnishes the basis for research, and the findings by research must again be in accord with clinical facts to be of value. This is illustrated by all the graphic methods of diagnosis. All graphic methods are subject to errors because their application is not purely mechanical; the slightest variation in technic may lead to contradictory results. Such limitations, well appreciated in sphygmography, are also found in pneumography (stethography)—the obtaining of curves from respiratory movements of thorax or abdomen. Therefore stethographic tracings must be controlled by careful clinical observation; jointly they will then reveal useful facts.

The methods used in obtaining tracings of respiratory movements are not complicated. A receiving Marey capsule, a funnel or a rubber ball fastened by a girdle are placed on thorax or abdomen and connected with a kymograph. Much simpler of application and giving more details, also obviating subjective influences by the experimenter, is the cardiosphygmograph of Jaquet, or any other good sphygmograph fastened over the chest with a girdle. Besides the time marker, this little apparatus allows the writing of two simultaneous tracings, one from the spring pelotte of the instrument proper, another by connecting a rubber tube with some receiving contrivance and transmitting the movements by air compression on to the second writing pin.

Apparatus or writing receiver may now be placed either on one of the ribs, the sternum or the abdomen, or both, to register costal and abdominal types of breathing.

Most observers have used the ordinary kymograph, getting their curves only from one spot at a time, usually a rib or the sternum. It should be remembered in studying such curves that their general direction is not like the one in sphygmograms, but inverted, the downward stroke corresponding to inspiration, and vice versa. Sahli recommends for such studies the Jaquet apparatus, whose readings are understood at once.

Hofbauer's admirable studies have revealed many details and a number of interesting variations entirely unknown before. He cautions in the first place against errors liable to result when breathing is not purely automatic, but disturbed by the fact that the patient is conscious of the purpose of the experiment and therefore does not breathe automatically. All voluntary or conscious breathing will affect the type. One should also make sure that the apparatus is secured on a spot where the breathing type is well established, and not near the border of the ribs, where inspiration may cause either bulging or retraction, except if one would purposely study such peculiar phenomena.

The normal type, it is agreed, is as follows: A sharp rise of the ascending limb on inspiration, at the end of which the line becomes slightly rounded near the apex; then at once an opposite movement, the expiratory, descending limb, approaching the base line with a slant, the expiratory pause. After a very short interval inspiration begins as before. While in normal breathing, inspiration, the augmenting of the intrathoracic volume in all directions, is caused by the ordinary respiratory muscles, expiration is said by some to be due only to the elasticity of the tissues involved. If this was so, the expiratory muscles would atrophy in health, which they of course do not do.

The physiologically normal curves taken from rib or sternum show no trace of aberration from the general direction whatsoever. No published curve of normal respiration shows any oscillations. However, if one place the apparatus on an intercostal space, far from the heart, one sees plainly a distinct oscillatory movement, disfiguring both, the ascending and descending limb, and even more so the expiratory pause, much augmented when the patient is told to hold his breath. It proves two facts, namely, that muscular contraction exhibits also here that physiologic tremor which may become more pronounced in disease, as I shall show further on; and that expiratory muscles are active, and that a continuous tremor persists during rest, long ago proved, for the muscles of the hand. Another fact is revealed, contradicting the statements of physiologic textbooks generally, and

* Read at the Fifty-Ninth Annual Meeting of the Missouri State Medical Association, Excelsior Springs, May 8-10, 1916.

that is during inspiration the intercostal spaces are not drawn inwardly in the healthy. The suction from the contracting diaphragm has no appreciable effect on the intercostal spaces. We see a distinct inspiratory rise of the curve on inspiration and a fall, a descent, during expiration. We shall see that in disease this may become reversed.

When a healthy person intentionally breathes deeper, then the general character of the tracing remains the same, excepting the greater excursions. In rapid breathing only the expiratory pause is abolished.

The changes occurring in dyspnea and in asthma have been studied by Hofbauer, who has established certain types as characteristic for certain pathologic conditions. Though they do not show with mathematical certainty in every case, it may be of interest to have the more important ones enumerated, without entering into a discussion of the theories so clearly expounded in Sahl's "Diagnostic Methods."

In bronchial asthma expiration is much prolonged, showing plainly the active effort, and then turns abruptly, without a pause, into the inspiration. Again, in cardiac asthma (not cardiac dyspnea) inspiration is much slower than normal, as also the expiration. In both the rhythm is usually slowed.

In uremic asthma (not in uremic dyspnea) we see a very long expiratory pause followed by a short further active expiration; then comes a quick and high inspiratory rise, which turns sharply into an active expiration, a short pause, another active expiration, and then again a long pause, and so on.

The large breathing in severe diabetic acidosis, the diabetic asthma, is most characteristic to the looker-on. The curve shows correspondingly very great active respiratory excursions and long pauses between each cycle, not interrupted as in the uremic state. The Basedow asthma is characterized by absolute irregularity, the hysterical by its rapid breathing.

Of dyspneas, the pleuritic inspiration is shallow, expiration lengthened. Pneumonia shows similar signs. In laryngeal and mediastinal dyspnea, as in bronchitis, inspiration is usually labored, as the curves and careful inspection show. It should be remembered that normally inspiration is shortened against expiration.

Periodical changes in the breathing phases are known as the Cheyne-Stokes and the very rare Biot type; the latter is called meningeal and gives a particularly bad prognosis. It differs from the Cheyne-Stokes by the very active breathing setting in at once after a long expiratory pause and ending just as suddenly.

Tracings taken from various regions of the thorax will eventually show differences in height due to local conditions. The shallow breathing of the side of a pleurisy or of a pneumonia have been known a long time. It may be pro-

duced at will, and also by applying irritants, like iodine or mustard, on one side of the thorax. This is not done, as a popular mistake claims, in order to favor absorption, but to induce shallow breathing, producing local comfort. In old cases iodine is painted on the healthy side, which will cause smaller excursions and force the diseased side to greater excursions, thus aiding in tearing old adhesions.

An old doctrine has it that in chronic lung disease the affected side will lag behind the other in inspiration. One sees plainly that both sides are not moving simultaneously.

To study and analyze such a phenomenon, I applied receivers on both sides of the thorax, on the first or second intercostal spaces for simultaneous tracings. Only quite rarely could I demonstrate the correctness of the old teaching, though inspection had promised its presence quite often. What was in evidence every time was a difference in the height of the curves, proved by the repetition of the findings after transposing the apparatus to the other side. The illusion of a lagging behind is due to the psychophysic law of relation between intensity of stimulus and apperception: the greater stimulus only *seems* to occur earlier; it is *perceived* earlier. This my application of the psychophysic law is accepted by authorities like Staehelin. It is the same as with the two radial pulses in certain cases of aneurysm, where simultaneous tracings often prove that the lagging behind is an illusion.

Another phenomenon was observed a great number of times which seems to have escaped clinicians generally. While under normal conditions the intercostal spaces exhibit an inspiratory bulging, as stated before, there are cases where an intercostal space, and usually only a limited part of it, will show an inspiratory retraction. This must not be confounded with the retraction of all intercostal spaces in stenotic breathing. I refer to very limited areas. If one now takes a tracing simultaneously from some other interspace, opposing waves will be traced, at first quite bewildering to the observer.

Such negative waves were encountered most frequently in tuberculosis, but occasionally also in chronic pleuritic conditions, never in acute cases, never in acute pneumonia, or in pneumothorax. I have seen it rather often in early and doubtful cases of tuberculosis, almost an initial symptom, where pleuritic involvement seemed improbable, though it is not impossible that local adhesions could cause it. They certainly are not the cause in every case. For it was observed that when the patient was told to take a long breath the negative wave would at once become positive and a normal breathing be established for a while, to be afterward changed into the former opposing type. Again, in other cases, probably of longer duration, the command to take a long breath would emphasize

the opposition of the waves even more, and the peculiar type be retained. That the pull of the diaphragm in pleuritic adhesions may participate, was proved in one case where the tracing from the third right interspace was positive, and that from the apex, above the clavicle, of the same side, was negative and remained so.

There is no doubt but that the diaphragm exerts a pull during inspiration, and where adhesions are absent, as proved in other cases, the cause must lie in the intercostal muscles, which in such cases possess an increased tone. They must be in a state of tetanic contraction, analogous to the muscular defense—rigidity in acute appendicitis. Over a diseased part of the lung the respiratory muscular contractions have ceased locally. This respiratory stop may be overcome by a voluntary more active innervation, and in more progressed cases a paretic condition has been established, not responding to any innervation. Both conditions would set the lung locally at rest—an effort of Nature which we try to imitate by an artificial pneumothorax.

Unquestionably, the nervous system must be responsible for all of this, ultimately or rather primarily.

A moderate stimulation of the vagus nerve, especially of the laryngeus superior, inhibits inspiration and leads to an expiratory standstill—the paralytic thorax in consumption. A stronger stimulation causes an inspiratory standstill—asthma—accompanied by a contraction of the bronchial muscles, which, of course, is not the only cause of asthma, as O. H. Brown has shown.

The opposite waves in early consumption are not by any means always in evidence. But what we see in every case on our tracings is a most marked tremor on the affected side, and this, I believe, to be truly pathognomonic. I never encountered it in other conditions. It is particularly marked during an apnea. A coughing spell will not simply produce a big wave, but a large number of them in rapid succession, due to vibrations of the vocal chords.

Metropolitan Building.

DISCUSSION

DR. O. H. BROWN, St. Louis: In Dr. Richter's paper a world of interesting material was presented, so much that it is difficult for us to draw conclusions without having time to study it.

Localizing the areas of muscle rigidity—the curve indicating a tetanic contraction of the muscle of those areas—is the same as the Pottenger sign. It is of practical value by the simple use of the finger tips. It is analogous to conditions in the belly where muscle rigidity is found over areas of active inflammation.

The only point of criticism that I would make of the paper is the loose use of the term "asthma"; and this criticism is not alone confined to Dr. Richter's use of the term, but is a general tendency in the literature. Asthma has been confounded with dyspnea to such an extent that it is very difficult to separate the two. From the derivation of the terms they are

practically the same; but from usage asthma has come to apply to a definite type of dyspnea, which was shown in one of the tracings where we get a prolonged expiration and along with that prolonged expiration, wheezing râles, emphysema, a wide expansion of the chest, a short inspiration, and a more or less typical sputum.

The other two papers are of value from three or four standpoints. In the first place, there are a considerable number of this type of cases of cardiac incompetency without marked signs. In the second place, there are a great many of the cases which are symptomless or having practically no characteristic symptoms. And, in the third place, when these cases are recognized early much can be done for them. What can be done depends on the reduction of the amount of physical exertion on the part of the patient, as well as proper medicinal treatment. Along with proper treatment comes the recognition, as Dr. Buddy says, of conditions that cause the individual to be below par physically, such as focal infections (that oftentimes escape attention) in the tonsils and gums, pyorrhea, chronic appendicitis, or other mild focal infections which produce rather minor symptoms and yet are sufficient to keep the individual somewhat below par.

In connection with this question of physical exertion, I will cite a case which came into my office recently, a young man who complained of distress on the left side of the chest, not very definite, coming only on certain days of the week. The condition puzzled me for some time, but in the course of my investigation I sent the young man to the bottom of several flights of stairs and asked him to climb up. I found that the apex beat traveled outwards a very considerable distance, enough so to be positive under strain. On inquiry I discovered that on the days when he complained of distress he was subjected to unusual physical exertion. He was a baker, and had to carry heavy sacks of flour. On having him discontinue this part of the work, and putting him on small doses of digitalis, the condition disappeared within a short time.

DR. N. P. WOOD, Independence: These heart cases are the bugbear of every doctor, and I suppose of every surgeon. There are always two things about them which are very interesting and not very easy of solution. One is the diagnosis, just exactly the pathologic condition existing as we find it. Then the treatment. The point I want to mention particularly is the treatment of some of these cases of insufficiency of the heart.

You get a patient with this dilated heart, and he has asthma, or dyspnea, and is unable to lie down. In those cases, venesection has given me the best results of anything I have used. Physiology teaches that the average human body has about 17½ pounds of blood in it, and also teaches that this blood makes the complete circuit of the body two or three times each minute. If we make it twice each minute, that means that the heart is receiving or disposing of about 35 pounds of blood each minute, or about 1,800 pounds each hour, or a little more than 10,000 pounds of blood every twenty-four hours. Now these seem like enormous figures, but they are the figures, and some one has said figures are not to be doubted. Then by venesection, removing a pint or two pints from this class of people, will take away considerable pressure and give a percentage of reduction to the amount of work that the heart has to do. The result is not only some satisfaction to the doctor, but the patient is almost relieved in many of the cases of dyspnea and will have an opportunity to come under the therapeutics. Then with the proper food, and always complete rest, or very little exertion, which is very important in all these heart cases, we may look for a good result.

TUBERCULOSIS AND ABORTION *

A PLEA FOR INDIVIDUALIZATION

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Tuberculosis and pregnancy have presented problems since the beginning of medicine, and while some of the theories which have been advanced have long since been declared to be based on wrong premises, others have become the ground on which clinical studies have been built which are accepted as the fundamental truth. It was once a belief that while tuberculous women did not frequently conceive, the advent of pregnancy was a stay to the tuberculosis. Then the pendulum swung around, and it was announced that all tuberculous women were menaced by their combination of conditions, and universal abortion of all these victims was decreed by the library and laboratory enthusiasts who constitute themselves the court of final decision, and promulgate *ex cathedra* decrees. What are the facts from which a sane opinion may be drawn?

No other clinical experience is so valuable as the conclusions which the man in a fairly extensive practice extending over a third of a century draws from his records, if the writer is gifted with any powers of observation and if he is able to classify the volume of his results. Looking back over his early years the comparison must be made as to the station of society in which he through fortune finds his lot to be cast. The majority of physicians have begun with families of the poor. One of the celebrated French practitioners of the last century is quoted to have said the poor were his best patients. They were not hypercritical, they were grateful, and among them, on account of lack of education in sanitation, disease has its fullest sway. He therefore concludes that furnishing a large variety of pathologic conditions, this clientele gave him a basis on which to build his career, because he has a familiarity with sickness which no theoretical knowledge could give. Success with the poor meant an introduction through their commendation to the homes of the well to do.

Tuberculosis has always been associated with poverty and ignorance—not universally, but to a large degree. Hence it is only while working with clinical material, either in the dispensary or in a cottage neighborhood, that the physician gets away from the realm of theory and into the realm of facts.

One of the most conservative of teachers of obstetrics says that in Chicago over one fourth of all the women of child-bearing age, between 15 and 45, have some tuberculous manifestations.

If the premises were followed to a logical conclusion and if we were to consider the universal abortion of 29 per cent. of the cases which are unfortunate enough to come to obstetrical attendants for treatment, obstetrics would be diverted from the position which it occupies as that of the most beneficent part of medical art, and it would sink into a side line in the work of the professional abortionist. No fair-minded man could for one moment consider the propriety of inducing abortion on one third of the child-bearing population. One stands aghast at such a ghoulish suggestion. Clinical evidence has convinced us that tuberculosis in the prospective mother must be treated as in the nonpregnant woman. Instead of a blind generalization, the individual must be considered. Children of tuberculous mothers have been seen to grow up healthy and themselves the mothers of a succeeding generation, whereas if the other plan were adopted and universal abortion decreed, two generations at least of persons would have been sacrificed. This assertion is verified by statements from competent observers like Dr. F. M. Johnson, former professor of obstetrics at Kansas City Medical College; Dr. Anson Hurd of Findlay, Ohio; the late Dr. Twyman of Independence, Mo.; Dr. J. H. Wroth of Albuquerque, N. M.; Dr. R. M. Eccles of Blissfield, Mich.; Dr. Abraham Jacobi of New York; Dr. C. A. Ritter, Dr. H. O. Leonard and numerous practitioners whose medical career covered a period of a quarter to half a century, each of whom had detailed to the writer numerous cases in their experience proving this point beyond any argument.

No great progress has been made in medicine without some daring soul having a vision and pursuing it, as Semelweiss, Simpson and Holmes followed their convictions, even when orthodox established authorities derided them as fanatics chasing *ignis fatui*. On the other hand, no great impression has ever been made on the profession except by clinical results which are so positive that the natural tendency to object and argue is rebuked by overwhelming testimony of the minority who must always prove that they hold to the haven of truth, even at the cost of popularity among their professional brethren.

There can be little argument as to the rights of the mother in an active infection. That is to say, granted that in event of cough, temperature, sweats, loss of weight, anemia, conditions are present which handicap the unborn fetus, so that aside from the dictum of the church there would be practically universal agreement that the mother should be relieved of the menace to her life constituted by the pregnancy added to the burden of the disease.

The additional strain of pregnancy calls for repeated observation of the patient, but so far as proper treatment shows this additional strain

* Read at the Jackson County (Mo.) Medical Society, Kansas City, Mo., Jan. 4, 1916.

to be well borne, abortion is not justified. The advance made in recent years in the treatment of tuberculosis warrants this position of the obstetrician, both in private and in dispensary practice.

In susceptible women with tuberculous tendencies, pregnancy has been charged as being the direct cause for an outbreak. Dormant tuberculosis it is claimed may be rekindled and assume renewed activity. On the other hand, in inactive second stage cases pregnancy seems to improve the condition. If the patient passes safely through the first trimester she will usually come to term in fairly good condition. In the last trimester if she loses ground her case becomes a grave one. In this period symptoms are always bad. Lebert says that of active cases 75 per cent. of the women are affected by the pregnancy, while both he and Kammeier say that in mild or inactive cases none of them are affected.

All observers are agreed that the puerperium is the critical period. In labor, cardiac failure, pulmonary edema and hemorrhage are to be feared. The tuberculosis may become fulminating and rapid death follow. A case in the writer's practice is recalled where the mother succumbed to tubercular pneumonia, the child following in ten days; a second case where the mother was lost, the daughter having been brought up with ideal surroundings, is healthy and has never shown any tuberculous symptoms.

Another family in which five children, now all grown and apparently well, survive a mother who developed a fulminating case after her last labor and succumbed.

These cases may be duplicated time after time, proving that the children of these mothers should not be sacrificed even if the death of the mother is imminent. In other words, neither the law of God nor of man puts it into our hands to be the executioners. In case of doubt, let us have mercy.

It is remarkable with what unanimity writers assert the great mortality of laryngeal phthisis associated with pregnancy. Imhofer claims the death rate is 86 per cent. and Kutener says 90 per cent.

Of the children of mothers with laryngeal tuberculosis, according to Parkow, Lubiner and Lassagna, 29 per cent. show tuberculous symptoms. How many of these cases are contracted by postnasal association we have no means of determining, as statistics are not afforded. It is safe to say that any child born of a tuberculous mother has a better chance to live if immediately removed from the menace of such environment.

E. Sergeant¹ says: In unfavorable cases in active progressive tuberculosis the patient may

die in a few weeks or months postpartum. However, since 32 per cent. of the children of tuberculous mothers live, it is evident that artificial abortion should not be performed.

Van Tussebrock, Vos, Schut and Konwer² conducted an inquiry into the influence which pregnancy has on tuberculosis of the lung.

It is remarkable what a wide variation of opinion was expressed by the 155 Dutch physicians quoted. It was claimed that 184 cases showed that pregnancy affected the lung condition, aggravating it; while in 223 cases it had no apparent ill effects; 192 of the women it was acknowledged came through more than one pregnancy, and of those who ultimately died from tuberculosis, some died so long after the last labor as to give little reason for associating the two conditions.³

The deplorable fact is apparent in this report, as in that of so many similar investigations, that no attempt was made to classify the statistics or to individualize the cases. All are agreed as regards the paramount rights of the mother whose existence is menaced by fulminating tuberculosis. This is in accord with the experience of the writer, who had one mother, the subject of quiescent tuberculosis, go through five succeeding labors. Although she had uterine hemorrhages sometimes to an alarming degree, she always reacted and made good recovery. Finally after a five months' sojourn in New Mexico, she came home and again conceived. She appealed for an artificial abortion, which was refused on the ground it was not indicated. She then made good her threat and produced abortion on herself, using slippery elm tents; she became infected and died following a general peritonitis. It is admitted that such a case deserves most attentive consideration, although it does not establish ground for generalization. This case was seen with me by Dr. E. W. Schauffler and the late Dr. Charles L. Spaulding.

F. Ebeler⁴ is one of the irreconcilables. He recommends abortion unconditionally in every stage of tuberculosis and in every month of pregnancy. He advises interrupting the pregnancy and sterilization by vaginal amputation of the body of the uterus, while Bumm advises vaginal total extirpation if sterilization is to be done.

If it be decided to interfere, what are the indications?

First and vital—save the life of the mother in immediate danger of death.

Second, prophylactic—an abortion is done to prevent extension of the tuberculous process.

Practically all therapeutic abortions are done for the second cause—prophylaxis.

2. Van Tussebrock, Vos, Schut and Konwer: *Nederl. Tijdschr. v. Geneesk.*, 1915.

3. De Lee: *Yearbook*, 1915, p. 41.

4. Ebeler, F.: *Zent. J. Gynak.*, xxxviii, 531.

1. Sergeant, E.: *Revue Prat. de Obst.*, 1914, xxiii, 47.

Polak says an inactive or healed lesion is no indication, provided the mother is in good condition. In advanced cases of tuberculosis, Bunn, Bacon, Van Bardeleben and Heil all say that even if interference is done early in the pregnancy it offers little hope of success. Veit says 43 per cent. of such cases operated on do badly. Van Bardeleben says 50 per cent. of these women die soon after interference.

In cases of the birth of a child of a tuberculous mother, all agree that the baby should at once be removed from the environment of the mother. The mother needs all her strength for her own salvation; the infant should be spared the risk of infection from association.

A wet nurse properly accredited by careful physical examination and a clean bill of health, including Wassermann and von Pirquet tests, is the ideal substitute. The food next best to milk from a foster mother is certified milk, properly modified.

The results in bovine tuberculosis, where the Bang system of segregation and isolation has been followed in Denmark and Holland, have been that new herds of cattle free from tuberculosis are built up, the young animals being at once separated from the mothers and the milk all pasteurized before being fed to these calves. While opportunities have not been so vast for making observations in the human family, similarly afflicted, still many instances of children whose mothers were tuberculous are on record, where careful environment of the new-born child was enforced and the conditions under which it was reared were ideal, and thus many a valuable citizen has been added to the commonwealth who otherwise would have been condemned to death before he was born.

The safety of the mother should always be the first consideration of the obstetrician. Happily the interests of the two vitally concerned, mother and child, are most frequently identical. In case there is a question, on what ground should the basis for interference be placed? It can only be determined by clinical experience.

In advanced cases of active tuberculosis the maternal danger is from dyspnea, cough, hemoptysis, cardiac failure, pulmonary edema and general infection throughout the lungs.

During the puerperium of mild or inactive cases there is to be noted no effect on the mother, no greater tendency to hemorrhage, nor is there interference with involution. In active progressive cases there may be excessive hemorrhage and also disturbed involution.

The effect of pregnancy on tuberculous women is the crucial and delicate point of this whole discussion. In an arrested or quiescent tuberculosis, noninterference is demanded in the interest of both mother and child. Let it be again repeated that in an active process shown by fever, sweats, cough, hemorrhage, anemia and loss of weight, the case demands

consultation with a competent internist or phthisiotherapist, and the question of emptying the uterus must be determined promptly in the interest of the mother. The question of the rights of both patients in a healed or arrested condition is the one where many of our authorities in obstetrics have very pronounced opinions.

An endeavor is here made to set forth the observations drawn from a long experience on the subject of tuberculosis and pregnancy and to verify these views by quotations from personal letters from the recognized authorities in obstetrics, phthisiotherapy and pediatrics, the three departments of medicine in which special training and years of work have given these correspondents their reputations and their opinions of inestimable value to the literature of the subject. Opportunity is taken to express, at this point, an appreciation of their assistance to the writer in reaching conclusions.

Quotations from these letters follow:

Dr. Charles S. Bacon, of the Chicago Lying-in Hospital writes: "I believe that the most recent improved methods of caring for tuberculosis can be taken up in treatment of tuberculosis as a complication of pregnancy, and that the results of such methods justify us in giving a better prognosis in cases of this complication. With rest, fresh air and nourishment I believe that most tuberculous patients will improve during their pregnancy. The greatest danger of the past has been that they would fail during the puerperium. Now this danger may be overcome in whole or in part by giving the patient the same care during the puerperium as she has had during her pregnancy—namely, rest, feeding and fresh air. I shall refuse to operate on a case of pregnancy with arrested or latent tuberculosis."

Prof. Reuben Peterson, Department of Obstetrics of the Michigan State University, writes: "I would never think of inducing abortion in the case of tuberculosis unless it was a question of the mother's life. In all my practice of over twenty years I have never seen a case where it was demanded."

Dr. J. Clifton Edgar, Professor of Obstetrics, Cornell University, writes: "I would state my position thus: I see no reason to interfere unless some active process asserts itself."

Dr. A. A. F. King, of George Washington University, Washington, D. C., writes: "I would refuse to take any active steps to empty the uterus unless symptoms involving the life of the mother should arise."

Dr. Charles M. Green, Professor of Obstetrics, Harvard University, writes: "I cannot persuade myself that a therapeutic abortion would be justifiable in case of arrested tuberculosis. Such a case should be closely watched, but it would seem to be highly probable that such a case go safely through. At all events I should hardly feel justified to abort the woman unless advancing pregnancy greatly jeopardized her pulmonary condition."

Dr. Richard C. Norris, of the Preston Retreat, Philadelphia, says: "It is my conviction that interruption of pregnancy is not justifiable in case of incipient or arrested tuberculosis unless the patient's condition fails to show improvement under modern methods of treating the disease."

Dr. Rossington M. Eccles, who has done an extensive obstetrical practice at Blissfield, Mich., during the past thirty-five years, writes: "My experience with women in whom the tubercular process is arrested and who become pregnant has been favorable to the

mother. I cannot recall a case in which pregnancy started up the old trouble and I can remember a number of cases in which several subsequent pregnancies were experienced without ill effects on the mother. Four weeks ago I delivered a mother of her second child, mother and baby both apparently healthy. This woman had an afternoon temperature for four years. During the recent pregnancy her temperature has been normal and remains so."

Dr. Junius Rawlings, formerly associate of the writer on the faculty of the Kansas City Medical College, now specializing in obstetrics at El Paso, Texas, says: "I believe that in cases where pregnancy occurs in women who are tubercular but in whom the tuberculosis is quiescent, without old caseation or cavities, and in whom the general health is fairly good, it should be permitted to take its uninterrupted course. I have frequent opportunity to observe such cases, my records showing a number of them and I can point to many normal children and satisfied parents."

Prof. John (Osborn) Polak, of the Long Island College Hospital, Brooklyn, from most valuable research of the subject (the writer quotes *ad lib.*, by permission), concludes that the effect of the tuberculosis on pregnancy is nil. He cites Emil Sergent, to the effect that abortion is rare even when coexistent pregnancy occurs where the patient has a large cavity.

Dr. John Whitridge Williams, Professor of Obstetrics at Johns Hopkins (*op. cit.*), and Dr. Joseph B. De Lee of the Chicago Lying-in Hospital (*op. cit.*) do not consider premature labor in the case of tuberculosis unless the type is fulminating. In mild cases they say there is usually no cause for alarm.

Dr. Barton Cooke Hirst, Professor of Obstetrics, University of Pennsylvania, (*op. cit.* p. 254) says it is the duty of the physician to advise against marriage in case of a patient affected by tuberculosis. If she is pregnant the induction of abortion might be considered in some cases to secure the birth of a living child, in others to spare the mother the drain of the last four weeks of pregnancy and to insure her an easy labor. A tubercular mother should not nurse her infant.

The following opinions of leading pediatricians are quoted as expressing the current opinions of living authorities in pediatrics:

Dr. Abraham Jacobi, Ex-President American Medical Association, the Nestor of the American Medical Profession, says: "Many of us are too anxious to interfere, and turn too often to the sound and the curet. While the Roman Catholic positive prohibition of any interference is not accepted, in the light of today's knowledge, your position is right and humane."

Dr. Henry Dwight Chapin, writes: "As it has never been proven in any but the rarest cases that tuberculosis has been directly transmitted from parent to offspring, I do not think it would be justifiable to induce abortion in case the mother is the subject of arrested tuberculosis. In giving this opinion I am speaking from the standpoint of the pediatrician."

In his letter Dr. Frank S. Churchill of Chicago says: "I certainly do not believe that universal abortion should be ordered for the class of prospective mothers not suffering acute tubercular manifestations. If the process has been arrested in the mother and she can be kept under good hygienic conditions I should think that pregnancy ought to proceed to full term and that the chances would be pretty good. Each individual case must be judged by itself."

Dr. L. Emmett Holt writes: "I would say first it is impossible to lay down a general rule applicable to all these cases; that each one must be considered

on its individual merits. If tuberculosis is advanced in the mother there is little hope for the infant. In milder cases many children may undoubtedly go on to full term and be saved. Tubercular infection of the fetus is by no means inevitable. The whole question, it seems to me, hinges on the extent and the rapidity of progress of disease of the mother."

Dr. Samuel S. Adams of Washington writes: "Although not a Catholic I am opposed to the destruction of the fetus because the mother is tuberculous. Such a course would soon increase the number of tuberculous pregnant mothers."

Dr. C. W. Wycoff of Cleveland, Ohio, says: "From the standpoint of pediatrics, and when I say that I mean the conservation of human life as regards both the child and the mother, I believe that in case of arrested maternal pulmonary tuberculosis the unborn child most decidedly has the right to continue its existence, and I certainly believe that more than a sufficient number of children might be ultimately saved by properly feeding the mother and giving her all the advantages of modern treatment to justify a plea of noninterference. However, in a great many of these cases I think it is wise to stop pregnancy at the eighth month. This does no special harm to the child except in weight and it is this last month which is especially trying physically on the mother. The question of nursing the babe comes next, and it is most important for the infant of such a mother to have maternal breast milk for the first two months of its life at least. If the mother had been able to carry the child up to the eighth month it will not harm her to any great extent to nurse the child for at least this short period."

Dr. Fritz Talbot, of Harvard, writes: "I do not believe a woman with tuberculosis should become pregnant. In the second place, if she does become pregnant I believe that the child should be given every possible chance, the mother being treated according to the modern methods until the baby is born. After the baby is born I believe the mother should not nurse it but the baby should be put on a wet nurse."

Dr. John Zahorsky of Washington University, St. Louis, writes: "I favor the view that abortion should not be produced unless it is clearly manifest that the mother will die before full term of pregnancy."

In the letter of Dr. H. M. McClanahan of Omaha he says: "I would stand very firmly for the rights of the unborn child. If the mother had an active tuberculosis it is a question in my mind if induction of labor would be any benefit to her. On ethical and moral grounds I question the rights of a physician to induce labor even if the child should be born tuberculous and die soon after."

Dr. J. P. Crozer Griffith of Philadelphia writes: "My feeling is that wherever the question arises between saving the life of the mother and of the prospective child, it is to be determined absolutely in favor of the mother. If the bringing on of an abortion is to be done with the idea of preserving the mother's life, that seems to me a legitimate procedure; but I cannot imagine any other possible reason for doing it. If it is determined that the mother's life cannot be saved in any event, then I think there can be no possible discussion as to the advisability of allowing the child to be born and doing everything possible to raise it. We are no more justified in killing the child before its birth on the ground that it might become an unhealthy subject than we are in expediting the death of a patient hopelessly ill for the reason that recovery cannot follow and the illness is a painful one. I mean to say that nothing but the actual saving of the life of the mother would in my mind justify the bringing on of an abortion."

Extracts from personal letters from members of the American Association for Study of Tuberculosis:

Dr. S. Adolphus Knopf of New York writes: "I believe most emphatically in prevention, and in spite of religious teachings of a very large and esteemable portion of our community I am willing to take the responsibility before the laws of the land and before my God for every time I have prevented the conception of offspring for an actively tuberculous parent. If the woman has conceived, is in good health and the father is tuberculous, the pregnancy should of course go on uninterruptedly and postnatal careful antituberculosis prophylactic treatment, or may I better say, careful treatment of the predisposition or the physiological poverty, which it has most likely inherited, should be insisted on. If a woman becomes pregnant who is only slightly afflicted with tuberculosis and is in the quiescent state with all symptoms showing a tendency to the arrest and cure of the disease, and with all good physical and mental conditions, we are justified in allowing the pregnancy to go on uninterruptedly—the child of course to be nursed by preference by a healthy foster mother. I agree with you that even in favorable cases, if from any point of view medical, obstetrical, mental or social, suspicious symptoms arise, consultation with a competent internist shall determine the course to pursue. Lastly, whether the tuberculous woman be allowed to carry her child to term or whether we find it best in her interest to interrupt the pregnancy, she should at all times after abortion or delivery be subjected for six months or a year to the best hygienic and dietetic treatment and good pure air at home or in a sanatorium. I know that some good men and authorities differ with me, but an experience of twenty-five years has taught me that these procedures are the only rational ones."

Dr. John Girdwood of Baltimore says: "I doubt very much if it is ever advisable to interrupt pregnancy in a tubercular woman. If the disease be quiescent, the puerperium will be accomplished without difficulty. If active symptoms develop it is doubtful if termination of the pregnancy will be of any advantage to the mother. In case the child is not viable no indication in its interest exists. If viable some question may exist, but none of us would care to have the mother die in puerperium."

Dr. Sherman V. Bonney of Denver, author of a cyclopediac work on tuberculosis, says: "There is no imperative indication for interference capable of general application when there is no loss of weight or other constitutional evidence of decline in the woman. I should favor keeping up a watchful observation and only interfere if indications should justify. In an active infection the rule does not brook argument—the best interest of the mother is only subserved by immediate interference."

Dr. D. R. Porter, formerly Professor of Medicine, Kansas City Medical College, says: "I do not believe the interest of the mother who is suffering from tuberculosis is injured by gestation. My observation is that her interests are greatly impaired by abortion, especially in the latter months."

Dr. William Duffield says: "The absence of acute symptoms of active tuberculosis, weight, temperature, etc., should be the guide for noninterference. A considerable number of cases have seemed to date their recovery from the beginning of a pregnancy."

Dr. Walter M. Dake of Denver says he regards the danger of interference decidedly greater than that of letting the patient alone in absence of fever with little cough and fair digestion.

Dr. Charles Fox Gardner of Colorado Springs says: "Cases with partial arrest, in other words those

who have shown a decided resistance and where the other factors of health are equal, I do not interfere."

A correspondent from Johns Hopkins Hospital writes as follows: "In general with arrested maternal pulmonary phthisis, the mother should be allowed to go on to term under the most careful supervision. Certainly a large number of children born of tuberculous mothers grow up entirely satisfactorily; the greatest danger to them is the contact with the tuberculous mother after the birth of the child."

Dr. Lawrason Brown of Saranac Lake, N. Y., says: "I do not believe a woman with tuberculosis should become pregnant if possible to prevent it. If any such unforeseen event does occur it is wisest, if acute symptoms, to terminate the pregnancy before end of the third month. If not seen until later it seems wise to allow pregnancy to go on to term, thus saving the mother the terrific strain which has much to do with bad results of pregnancy, by giving an anesthetic and applying forceps."

Dr. Hubert Work of Woodcroft Hospital, Pueblo, now United States Senator, writes: "In cases of doubt concerning the advisability of producing abortion to save life, I am always against it. If the tubercular process be arrested most women will be damaged more physically, mentally and morally by abortion than by completing the gestation. No one can say in advance how much a woman's health will be impaired, but the unnatural termination of a pregnancy is always a great shock to the woman."

Dr. Max Rothschild of San Francisco says: "I believe the tuberculous patient in absence of active symptoms should go on to term. No interference should be tolerated in absence of acute symptoms."

Dr. Francis M. Pottenger of Monrovia, Calif., says: "If the patient is not suffering acute tuberculosis, and if the disease is arrested or apparently healed, then I should say the best thing would be to watch the mother carefully and see if she could not go through to term without harm."

Dr. John E. White, of Nordrach Sanitarium, Colorado, says: "Pregnancy is always safe in tuberculous women if the disease is under arrest or apparently cured. Many cases I have seen go thus to term and no bad results followed."

Dr. A. G. Shortle of Albuquerque Sanitarium, N. M., says: "Interference is not justifiable if the woman is in fair condition. The operation of abortion not only destroys the child but is just as dangerous to the mother as to carry the fetus to term."

Dr. Henry Barton Jacobs, of Baltimore, says: "If the mother has an arrested or apparently cured case I should certainly allow her to go on to term unless there occurs such rapid recondescence of symptoms as to make it likely she could not complete the pregnancy. While children from tuberculous parents have higher susceptibility to tuberculosis, if the mother is in an apparently hopeless stage of the disease, it would seem the child's life is more valuable than that of the mother and it should be spared."

Dr. Norman Bridge of Los Angeles says: "I have known a number of women who have borne several children each since they acquired pulmonary tuberculosis and they seem to be little the worse for it. Yet on general principles women with tuberculosis should not marry."

Dr. Gerald B. Webb of Colorado Springs says: "Unless the mother is losing ground there can be no hard and fast rule. I have seen pregnancy accomplish excellent results in many arrested cases."

Dr. Charles L. Minor of Asheville, N. C., says: "My experience has taught me that so many tuberculous women, when they are in good shape and a sufficient time separates their pregnancy from their sickness, can safely bear children, and although not a Roman Catholic I do not think that the rights of the mother

are so greatly jeopardized as to justify us in neglecting the rights of the unborn but none the less living child and the time for us to be active is before impregnation begins."

Dr. J. H. Wroth of the University of New Mexico writes: "I regret to inform you that I am not an authority on the therapeutics of tuberculosis, but having lived in this country some thirty years and a large part of my work being obstetrics, I have watched with interest the effect of pregnancy in tubercular cases. I do not know that I can make myself clear to you, as my views are those of a heretic. First, I am unalterably opposed to the production of abortion even in the most unfavorable conditions and even if it produces more or less of an abeyance of the pulmonary involvement, although I have frequently noticed that the tubercular trouble seems to spring up at the termination of pregnancy with greater force and vigor. I have on record quite a number of tubercular mothers in the first and second stages who have carried to a successful issue the bringing forth of offspring and these offspring having been reared in this country and immediately taken away from the mother, as far as nursing is concerned, I have yet to find any really marked detriment to the child, save possibly, the occurrence of meningeal involvement; but to offset this, I believe it comes quite as frequently from paternal infection as from maternal. Answering the argument of insisting on the rights of the mother as against those of the child, I have this to say, that from the fact that pregnancy does exercise an inhibiting effect on the original disease, what is the use of exposing a person undergoing an active process to an additional danger, which we all admit and preach against under other circumstances? I am not a Catholic, and yet I feel that while I regret the occurrence of pregnancy in a tubercular woman, whether that disease is active or not, the mother stands a better show by permitting her to carry gestation to full time, than under a mistaken idea add heavier weight to the already heavy burden she carries. I admit that I am against authorities. I am basing this simply on personal experiences, and as you are aware, this country has been for years a health resort for just that kind of people. Thirty years of my thirty-three years of practice have been spent here. I have a record now of 2,000 cases of obstetrics, and I have yet to see the time when I would consider it positively advisable to interfere with pregnancy on the ground of tuberculosis. I have seen many cases that have worried me, many cases where I have considered the advisability of it, but I have invariably come back to my original view. I am also familiar with the practice of other physicians here and I know of but one case in which abortion was produced for the purpose of relieving the mother and she very promptly died. Of course other factors may have entered into this result."

Dr. N. S. Davis of Chicago says: "I would hesitate to recommend premature delivery unless the mother was very sick, not likely to live to bear her child. I imagine few would wish to provoke delivery then. I have noticed the statistics among tuberculous cows. My recollection is that almost all their calves become vigorous if fed on milk from healthy cows and are immediately removed from unhealthy parents."

Dr. W. A. Evans, former Health Officer of Chicago, says: "I have allowed women with nonprogressive tuberculosis to go on to term without deleterious effect. The woman should, however, be made immune by tuberculin."

Dr. Karl Von Ruck of Asheville, N. C., writes: "I am strongly convinced that it is only under exceptional circumstances and after careful consideration of all facts in a given case that the interruption of a pregnancy can be seriously considered if the result should justify the operation."

The facts are that cases which progress more rapidly under pregnancy are those in which the activity becomes manifest during the pregnancy, and they are rarely benefited by the interruption. As a rule, they go on just the same and not infrequently the effect of the operation, together with the loss of blood, etc., makes things worse instead of better. Then it must be borne in mind that the onset of active symptoms does not necessarily have a relation to the pregnancy, and that their subsidence after an abortion need not depend on it. Active changes, so called, mean, as a rule, caseous pneumonic processes, either occurring in establishing phthisis, or mean softening in a caseous one or of several such. When once instituted, they go in the first case until no further involvement of new lobules or confluence of existing foci occurs, and in the second case until such caseous softening has progressed to a stage where exit drainage and excavation has commenced. It is hard to understand how the interruption of gestation would change these pathologic processes, and equally so they should originate or develop by the occurrence of pregnancy. If men could only learn to reason from pathologic evidence instead of from manifest symptoms, they would be saved many erroneous conclusions.

With or without pregnancy such activity is a common experience in pulmonary tuberculosis, and if we can do anything to influence the final result and eventually secure a recovery, it is by conserving the patient's nutrition and strength that she may hold out long enough for the arrival of the time when drainage of a softening focus becomes free and when these active symptoms will subside.

In this indication only can we properly consider the effect of a pregnancy, and only in so far as its continuance may affect her general nutrition. If, then, such a case is accompanied with nausea and vomiting to such a degree that adequate feeding is impossible, and if we can in the light of physical signs hope that with the removal of the cause such patients would have a fair chance to accomplish excavation and drainage, though, on the other hand, she would probably reach a state of exhaustion before this occurred, we should not hesitate to remove the cause (other means having failed) by interrupting the pregnancy.

I think it perfectly absurd to consider pregnancy itself, either with active or quiescent tuberculosis, a serious complication to a degree that would warrant its interruption. In all my experience I have not hesitated to abstain or to counsel noninterference unless for the one reason stated. I feared the loss of nutrition.

In otherwise hopeless cases, the patient is going to die anyway, and I see no call to interfere with the life of the fetus.

In cases of advanced laryngeal tuberculosis, the process is with rare exceptions bad, and such patients may go to term or not if we let them alone. We may have a chance to save the child. If we interrupt it we are sure of losing both lives. In several impossible cases by reason of the extent of the lung disease, but without uncontrollable vomiting, normal delivery occurred at term and the patient was in the end no worse for the pregnancy. In two cases in which for reasons stated I interfered, the mother died, and it was doubtful even that the interference materially prolonged her life. In a third case of interference I am satisfied that it hastened the mother's death.

This conservation course enables me to point to a number of living children from 2 to 22 years without a single death among them from marasmus or tuberculosis, who would all have been sacrificed had I followed the recommendation of certain authors who advise the arrest of any pregnancy in cases where the mother has pulmonary tuberculosis, and I am very certain indeed that I lost no mother because of the conservative course followed.

In conclusion, the law of the survival of the fittest holds good as well today as when it was enunciated. There will be deaths from tuberculosis as well as from other of the infectious diseases in spite of the enthusiasm which inspires some to predict that in thirty years the great white plague will have vanished from the earth. At this page in the world's history, blotted by the picture of the mowing down of the nations in war, it is more especially true that those who may be spared to become a part of the coming generation should merit our compassion. The French are just now said to have regained the 2 inches in height and thus been restored to the average stature from which they shrunk after the Napoleonic war, owing to the fact that the fathers of the succeeding generations of the last century were not the type of Apollo. Nobody will say that on this account the children of this paternity should have been sacrificed on a theory of generalization. We are living in an era of conservation of natural resources. It is said that he who makes two blades of grass to grow where one grew is a benefactor to the race; this beautiful sentiment has been universally commended. Since ours has been called the age of the child, shall we deny to the human plant the same rights to its existence which we demand for the inanimate embryo? Civilization it is hoped has passed the period of utilitarianism of the Patagonian or of that of the dwellers by the Euphrates and the Ganges.

With Dr. Adam Wright of Toronto, may it be said of this whole subject: "It is a question of individualization. No broad generalization can be laid down, but each case must be studied by itself. We believe in the curability of consumption in the pregnant as well as in the non-pregnant. If 29 per cent. of the women of child-bearing age in any community will show some evidence of tuberculosis, our duty to these women is to save them, not to murder their unborn children."

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DYSMENORRHEA *

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By dysmenorrhea we understand the appearance of decided pain associated with menstruation.

Very few women menstruate without some sort of pain which may appear shortly before or during the flow. Ernest Herman¹ states that only 40 per cent. of all women menstruating suffer no pain and that 10 to 20 per cent. of the unmarried women are bedridden with pain during a part or all of the menstrual period.

Dysmenorrhea is not a disease but a symptom which occurs in many affections of the genital tract, though no other gynecological symptom owes its cause to so many extragenital affections.

Normal menstruation means a normal ripening and rupture of the follicle in the ovary, congestion of all the pelvic organs, the uterus is enlarged and softened, mucosa thickened to 5 to 7 mm. and markedly congested, superficial extravasations of blood take place within the uterine cavity and contractions force it through the cervix.

Hitschmann and Adler² have shown that the swelling of the upper compact layer of the cells nearest the uterine cavity compresses the mouths of the glands opening into this cavity; the glands at this time are distended with the increased secretion and appear corkscrew shaped. The tryptic ferment of the glandular secretion digests its way toward the surface and thus produces the menstrual bleeding which normally does not clot.

Frankl³ advances the very interesting theory that the deficiency of tryptic ferment allows the formation of clots, hence more pain.

The premenstrual stage takes place eight to ten days preceding the flow and gradually increases until bleeding occurs.

A painless normal menstruation requires primarily a nervous system which is not hyperesthetic; and secondarily that the premenstrual swelling take place in a uterine wall which is not inflamed, infiltrated nor sclerotic; that the mucosa can readily swell and accommodate the increased amount of blood; capillaries and lymphatics be of normal caliber; uterine cavity be large enough to permit swelling of the mucous membrane; menstrual blood readily flow out through the cervix; and the pelvic congestion be not opposed nor limited by inflammation nor adhesions in or about the various organs.

The ovarian secretion, the internal secretion probably from the corpus luteum, causes a premenstrual swelling involving the circulatory system, nerve centers and mucous membranes.

According to Winter,⁴ this premenstrual swelling affects not alone all the pelvic organs, but also the central and peripheral nervous systems, as well as the various organs dependent on them for their nerve supply, hence disturbances may be of a physical or a mental nature. He attributes the hyperesthetic condition of the endometrium to excessive irritability of the genitalia and undue sensitiveness of the entire nervous system, so that the premenstrual congestion acts on the uterus and all other organs with unusual irritation.

Premenstrual symptoms result from premenstrual congestion; there is a feeling of heaviness and sensitiveness in the pelvis and lower abdomen; the bladder participating in the general pelvic congestion is more sensitive and

* Read before the St. Louis Medical Society, Feb. 5, 1916.

there is a desire to urinate frequently; a sensation of pressure in the rectum, pain in the back and legs is common. All mucous membranes are more or less congested; singers are apt to be hoarse, certain areas in the nose may become swollen, interfering with the free passage of air; vision is scarcely so acute; the secretion of the intestinal mucosa is greater. The acidity of the gastric juice is increased while at the same time the motor function of the stomach is below normal throughout the entire period of menstruation.

Chvostek⁵ examined thirty women and in twenty-seven of them found the liver during menstruation increased one to two finger-breadths below the costal margin.

All annoyances and hyperesthesias existing in sensitive portions of the body are apt to be increased.

These results, due to a perfectly normal constitutional congestion associated with menstruation, act with undue force on sensitive nervous systems. These patients are nervous, tired, excitable, restless, perhaps melancholy or even somewhat maniacal. Palpitation of the heart is common, likewise a feeling of heat, cold feet, etc.

Recurrences of dysmenorrheic pain are sometimes enough to shatter an unstable nervous system and provoke neuroses and psychoses.

One of the most important sequelae is headache, diffuse or of the form of hemicrania, also the tendency toward the development of hysterical attacks.

As to the causes of dysmenorrhea: the most popular opinion among gynecologists is that most cases do not show palpable lesions to account for the pain; in the words of Baisch⁶ "The most searching pelvic examination reveals not the slightest deviation from the normal." Palmer Findley states that in his experience severe dysmenorrhea without pelvic abnormalities is rare.

Ludwig Pick³⁵ says that all gynecological disturbances are due to errors in development, new growths, gonorrhea, lesions pertaining to childbirth and last, though by no means least, the gynecologist. To these may be added tuberculosis and chronic constipation. Begtrup-Hansen,⁷ Welch,⁸ and Graefenburg,⁹ emphasize the fact that dysmenorrhea or amenorrhea in young women should direct the attention towards a possible tuberculosis.

I shall attempt to classify the various forms of dysmenorrhea into two general classes, namely: Those with demonstrable pelvic abnormalities and those in which no such lesions may be demonstrated.

Among the common causes of dysmenorrhea showing pelvic abnormalities are:

1. Hypoplasia or under-development of the uterus.

2. Mechanical or obstructive dysmenorrhea.

3. That due to inflammatory causes.

4. Ovarian dysmenorrhea.

1. Hypoplastic and infantile development of the uterus is fairly common in young chlorotic or anemic girls with delicate physique and also in obese girls.

Schulz¹⁰ attributes the pain in these cases to the fact that the tough connective tissue of the outer layers of the uterus with its closely connected peritoneal covering does not yield to the pressure of the menstrual congestion and hyperemically swollen uterus.

During the premenstrual swelling which begins eight or ten days before the appearance of the flow, the under-developed uterus is too small for its cavity to permit of this normal amount of swelling. The pains usually begin several days before the onset of the flow and lessen or disappear when the flow is well established, though may reappear at any time during the period.

The slighter the flow, the greater the pain. Pain in these cases usually dates from the first appearance of the menses, though it may first appear one or two years after the beginning of the periods when the premenstrual swelling is greater. The menses as a rule have first appeared rather late in life, between sixteen to eighteen years of age. This form of dysmenorrhea seldom occurs for the first time after marriage which usually improves it. Under-development of the uterus is of course cured after confinement. The diagnosis of a hypoplastic uterus as the cause of dysmenorrhea is made by: the history of the tardy appearance of the first periods; premenstrual pain relieved by a free flow; poorly developed physique or an obese girl and on pelvic examination finding of a small uterus, particularly of the so-called infantile type, namely, two-thirds cervix and one-third body.

The second group, which Opitz states contains the greatest number of cases with demonstrable lesions, is:

2. The mechanical or obstructive dysmenorrhea.

Any mechanical obstruction to the escape of the menstrual blood will produce excessive uterine contractions which cause the pain.

The pain is of relatively short duration, cramp-like and ceases only after a free flow.

Among the mechanical causes are: polypi, acute flexions, cervical stenosis, hyperplastic endometritis, and tumors.

(A) Polypi are formed by the hyperplastic thickening of certain mucous membrane particles and narrow the passage.

(B) Acute antelexion according to Bandler may not be considered pathologic until the body and cervix lie parallel and thus constrict the inner os; this is not a common cause.

(C) Retroflexion is a rare cause; in these cases the torsion of the broad ligaments compressing the thin-walled veins, causing venous stasis, results in excessive bleeding and the formation of clots. These clots give rise to marked contractions and severe pain.

(D) Cervical stenosis, congenital or acquired, is the most common of the mechanical causes. Here the uterine wall is rigid and the cervix long and narrow.

According to Sellheim,³³ the canal is normally 4 mm. in diameter and if narrower than this, some obstruction is to be expected. The application of escharotics and cauterants about the cervix is apt to bring about an acquired stenosis.

(E) An overgrowth of endometrium near the inner os forming the so-called cervical adenoids of Bandler may obstruct the canal and require strong contractions to force the accumulated blood from the uterine cavity, then the opening is usually sufficiently free to permit the escape of the succeeding flow during this period, since the mucous swelling becomes lessened with the discharge of the menstrual blood and thus encroaches less on the opening.

(F) Small submucous or intramural fibroids encroaching on the cervical canal particularly near the inner os may cause obstruction. In such cases, pain is usually present from the onset of the first menstruation; the greater the bleeding, the greater the pain; clots aggravate the pain.

The diagnosis is made by the recognition of acute flexions, polypi, stenosis, etc. Sound the canal for irregularities of small tumor growths. Cervical adenoids being soft, cannot be felt by a probe, though, on contact with the latter the patient will usually say, "that is my pain."

Dilatation of the stenosed canal to 9 or 10 mm. two to four days preceding the expected flow will relieve that particular period, when due only to stenosis; it is of course cured by labor.

3. Inflammatory causes. The usual variety aggravated or acquired only after marriage is nearly always of inflammatory origin, either gonorrheal or puerperal.

The endometrium shows inflammatory and hyperplastic changes and may feel rough when palpated with the sound. This procedure is extremely painful.

Inflammatory diseases in the pelvis are more or less constantly painful with exacerbations during the menstrual congestion.

After the subsidence of inflammatory processes when palpable and visible changes can no longer be found, a hyperesthetic state of the pelvic organs may persist, giving rise to dysmenorrhea. Discharge is common though not invariably present.

Symptoms ordinarily begin several days preceding the flow with pain during the premenstrual swelling. Bleeding may be normal in

amount and duration. Where the glands are extensively involved or hypertrophied, the amount of blood lost is usually increased, possibly due to the increased secretion, the tryptic ferment of which dissects open more vessels. Uterine and cervical catarrh are common. Inflammation may be present without discharge, which is not common, or without hemorrhage. Nervous symptoms are much more pronounced at periods. Evidences of metritis, salpingitis, parametritis or perimetritis, may be present.

Where pain is present from the first period, the inflammatory condition may have originated from a gonorrheal infection during childhood, or the infectious diseases as measles, scarlatina, diphtheria, etc. In the so-called tubal dysmenorrhea, there is a chronic salpingitis with adhesions; the dysmenorrhea is simply an aggravation of the pain ordinarily present at other times.

According to Bandler¹¹ 8 to 10 per cent. of all tubes removed for inflammatory changes are tuberculous and 30 to 40 per cent. of the cases of tuberculous peritonitis show tubal involvement. I believe these figures are too high by at least 50 per cent.

A rare form of inflammatory dysmenorrhea is that due to hyperesthesia of the sacro-uterine ligaments which are put on the stretch during the contractions of the menstruating uterus.

4. Ovarian dysmenorrhea is caused by a chronic oophoritis. Sclerotic changes are present due to the increased amount of fibrous tissue in the stroma with destruction of the follicles, cystic degeneration and often thickening of the outer coat.

Chronic oophoritis can result from: *a.* The infectious diseases of childhood. *b.* Peritoneal irritation due to appendicitis, tuberculosis, chronic constipation, etc. *c.* Gonorrheal infection, which is the most common cause of oophoritis.

Varicosities in the broad ligaments are frequent accompaniments and possible etiological factors in the production of degenerative changes in the ovary.

Ovulation normally begins four to eight days before menstruation; the Graafian follicle containing the ovum gradually increases in size partly because of the increase in the liquor folliculi, partly due to the hyperplasia present and partly by the growing ovum. When the follicle is fully developed, the outer covering (or tunica albuginea) which has become quite thin, ruptures, due to pressure and to the enzyme effect of the ripe ovum digesting its way outward.

The tension accompanying the premenstrual swelling of ovulation in normal individuals is painless; in hyperesthetic women or women with thick outside covering of the ovaries, more tension being required to effect a rupture of the follicle more pain is thus produced. Pain in the lower abdomen is three times as frequent on the

left side as the right, due to the position of the sigmoid which when filled with fecal matter exerts mechanical pressure upon the left ovary. When we realize that fifty to eighty per cent. of all women during menstrual life suffer from chronic constipation, the frequency of pain in the left lower quadrant is readily understood.

Aside from the exacerbation of pain more or less constantly present in chronic oophoritis, ovarian dysmenorrhea is relatively rare. I am not willing to admit the frequency of such a disease as ovarian neuralgia unless it be considered as part of a state of general bodily hyperesthesia.

Having mentioned these forms of dysmenorrhea where pelvic abnormalities may be demonstrated, I shall take up the second and more numerous class, namely, those where no palpable lesions can be found. In this class I shall include:

1. Nasal dysmenorrhea.
2. Membranous dysmenorrhea.
3. Essential, spasmodic, or nervous dysmenorrhea.

1. *Nasal Dysmenorrhea*: In 1897 Fliess,¹² the Berlin rhinologist, observed certain swollen and tender red areas or "genital spots" on the nasal septum and inferior turbinates during menstruation. Schiff,¹³ Ludwig-Pick,³⁵ Linder¹⁴ and Ephraim¹⁵ obtained temporary relief of menstrual pain by cocainization of these spots. Emil Mayer,¹⁶ working in conjunction with Joseph Brettauer, reported permanent relief in 50 to 75 per cent. of eighty-one cases in which these spots were cauterized. After much discussion, it appears that Fliess has overestimated the significance or importance of nasal dysmenorrhea, though it may be explained on the theory of reflex stimulation, such as the smell of various odoriferous substances by animals provoking sexual excitement. Opitz¹⁷ reports having produced uterine contractions by stimulation of the nasal mucous membrane when the patient was under a general anesthetic. The late Dr. H. N. Spencer³⁵ cited a case of dysmenorrhea in one of his patients which ceased at once upon her engagement to marry.

2. *Membranous Dysmenorrhea*: Is that form in which, at each period, there is discharged in the flow, rather large, coarse pieces of endometrium or less frequently an entire cast of the uterus, associated with severe pain. The true cause of membranous dysmenorrhea is not known; many, including Selmar Ascheim,¹⁸ claim that it is of inflammatory origin; but the work of Hitschmann and Adler,¹⁹ Frankl²⁰ and Eicke²¹ have all shown such not to be the case, since the uterine scrapings examined microscopically midway between the periods, present a normal histologic picture.

Palmer Findley²² quotes Sir I. Williams as having found membranes in three fourths and Scanzoni in two thirds of all their cases of dysmenorrhea. Round cell infiltration and the

presence of superficial particles of endometrium more or less partially digested by the tryptic ferment of the uterine secretion are the accompaniments of every normal menstruation, while in membranous dysmenorrhea the particles are much larger and coarser or the upper layers of the endometrium are even discharged in toto.

The discharged particles are usually 2 to 5 mm. thick and are in a state of more or less disintegration, having laid one to three days detached in the uterine cavity. Where the pieces of tissue are sufficiently preserved, Hitschmann and Adler have shown them to consist of the lifted off superficial stroma cells layer of the premenstrual mucous membrane. The cause of membranous dysmenorrhea probably lies in a deficiency of internal secretion of the ovary with resultant insufficient glandular activity and the consequent lack of tryptic ferment.

The real cause of the pain is the presence of the pieces of tissue provoking powerful uterine contractions to expel same, hence being a form of mechanical dysmenorrhea. A cervical canal large enough to permit of the easy escape of these pieces, relieves the pain, though the menstrual discharge persists as before. (Frankl).³⁵

Eicke,²¹ Franque,²³ Lepage,²⁴ and Opitz¹⁷ all report that the superficial parts of the uterine decidua in early ectopic pregnancy are an exact duplicate of the freshly discharged particles of mucous membrane in membranous dysmenorrhea.

The majority of the cases of dysmenorrhea belong to the fourth class.

4. So-called nervous, spasmodic or essential dysmenorrhea; namely, those where no local condition can be found to account for it.

One can rarely diagnose the cause of dysmenorrhea from the particular kind of pain. A very careful history and examination will usually show these patients to be nervous.

They are not necessarily suffering from a severe affection of the nervous system as hysteria or neurasthenia, but rather a hypersensitiveness which causes a sensation barely perceptible by a perfectly healthy woman to be excruciatingly painful in this type of sufferer.

The nervous form of dysmenorrhea is often an occupational disease, with excessive demands upon the mental and physical strength of that particular individual. Seamstresses, school teachers, governesses, telephone operators, musicians, stenographers, bookkeepers and women in general doing inside work more mental than physical in nature, constitute the bulk of the dysmenorrheics.

Naturally occupational ill effects otherwise influence the nervous system, secondarily leading to dysmenorrhea. Anemic, muscularly weak and poorly nourished women suffer with dysmenorrhea as well as those suffering from

depressive mental states in consequence of family cares, childlessness, unhappy marriages, early widowhood or a hopeless state of spinsterhood.

The essential and only symptom is pain, hence we have only subjective findings.

The character and duration of the pain as well as its relation to menstruation is very different in different individuals. Most frequently, the first few menses are not painful and the development of pain is gradual. Occasionally one hears the statement that the onset began suddenly after some "psychic trauma," or "catching cold" and continuing since that time; which latter fact is simply a coincidence.

The symptoms usually last until the forties are reached, then often cease, though the pain may continue throughout menstrual life. Sexual intercourse often has a favorable influence on dysmenorrhea, though less markedly so than the first labor which often cuts short the affection.

Opitz¹⁷ cites cases where multiparae have first acquired the nervous form of dysmenorrhea on changes in their location and manner of living.

That the treatment of these forms of nervous dysmenorrhea should not consist of cervical dilatation, curettage, etc., is, of course, evident; but one should above all try by means of suitable dietetic and hygienic measures, change of air, scenery, etc., to improve the general condition and lessen nervousness. I heartily agree with Baisch²⁵ of Munich in that, nearly every local pelvic treatment is contraindicated in cases of pronounced hysteria and neurasthenia. The nonobservance of this rule surely justifies the assertion of Pick in classifying the gynecologist among the chief causative factors in gynecologic troubles.

The treatment of those cases with demonstrable pelvic lesions, should be directed toward the relief of the latter conditions; hence an accurate diagnosis is necessary. Those due to mechanical and inflammatory causes are the only ones which in my opinion warrant local treatment. Growths encroaching on the cervical canal should be removed by curettage or enucleation; where there is stenosis with elongation of the cervix and pronounced antelexion, I agree with Crossen²⁶ in preferring the cervix widening operation of Dudley which shortens the posterior lip, widens the canal and directs it downward and backward.

For stenosis without cervical elongation, I agree with Carstens²⁷ and Gellhorn³⁵ in the use of the intra-uterine pessary worn for a period of three to six months. Carstens has the patient wear a silver stem pessary for six months and claims to cure nearly every case of spasmodic dysmenorrhea as well as that caused by hypoplasia.

The presence of infection and sexual intercourse during this time is, I believe, a contraindication to its use.

Retrodisplacements when movable should be replaced and a suitable pessary worn five or six months, being removed, cleansed and replaced every four weeks during this time while measures are being carried out to improve the general condition. The presence of adhesions is an indication for the intra-abdominal shortening of the round ligaments.

In dysmenorrhea due to inflammatory causes, I agree with Bumm,³⁵ Fromme,³⁵ Nagel,³⁵ Sellheim,³⁵ Henry Schwartz,³⁵ and others, in absolute bed rest with the local application of ice to the lower abdomen during the acute stage. The presence of fluctuation is an indication for vaginal drainage. After the acute stage has passed, all the various measures of applying heat to promote absorption are indicated. With these should always be combined measures to improve the general physical condition; the relief of constipation being particularly important. Among such means to promote absorption may be mentioned prolonged vaginal douches—twenty minutes' duration twice daily with the patient in the recumbent posture; hot sitz baths for twenty minutes every other night; application of the mercury bag (5 lbs. of mercury in a rubber bag placed in the vagina with the patient's hips elevated) will serve as an aid in stretching adhesions and replacing the uterus; Thure Brandt's²⁸ method of pelvic massage and finally dry heat applied by means of a Gellhorn²⁹ hot air cabinet for one hour twice daily has proven the most effective of all means of treating pelvic inflammations. A certain percentage of these cases will eventually require operation for the separation of adhesions present, though very few for the removal of any tissue. Where salpingectomy alone has been done, my personal experience and observations have been very unsatisfactory, only temporary relief having been given in most of these cases and I do not feel that dysmenorrhea alone warrants a radical removal of the uterus and its appendages.

The treatment of ovarian dysmenorrhea or in reality chronic interstitial oophoritis I find is best benefited by the same general measures as have been mentioned for the relief of inflammatory conditions. In all cases of dysmenorrhea, measures for the relief of chronic constipation are indicated.

Membranous dysmenorrhea is very obstinate to treatment. After childbirth, where the cervical canal is quite large and the patient informs you that the confinement has cured her dysmenorrhea, an examination of her next menstrual flow will reveal the same flow with the pieces of tissue that were present before her pregnancy, thus showing the relief has been obtained by a wider cervical canal. Curettage, so often practiced for this condition, is a useless procedure. Some cervix widening operation as the Dudley or that described by Pozzi in the

1909 edition of *Surgery, Gynecology and Obstetrics* is indicated.

Acting on the theory of Opitz that it is due to a deficiency of ovarian secretion, the injection of the soluble extract of corpus luteum would seem worthy of a trial.

Nasal dysmenorrhea should be recognized by the application for five minutes of a 20 per cent. solution of cocain to the "genital spots" on the anterior end of the inferior turbinate bone on each side and a spot just opposite this on the septum. Should the menstrual pain be at once relieved by these applications for a period of about six hours the patient should be referred to a rhinologist for a thorough cauterization of these areas.

The treatment of those cases due to uterine hypoplasia and underdevelopment is the same as the essential spasmodic or nervous forms of dysmenorrhea who make up the bulk of all women so affected and will be treated with the latter. The psychic element is very important. The chief viewpoint must recognize that the great majority of dysmenorrheics have a certain hyperesthesia of the nervous system, for the relief of which one must in all cases try to effect a removal of this weakness through physical exercises, baths, internal medication, etc.

First and foremost come measures to improve the general physical strength, open air exercises several hours daily, such exercises as walking, swimming, canoeing, tennis, golf, etc., stimulating cold plunge, shower or sponge bath in the mornings, hot bath at bedtime; of considerable value though less effective than the out-of-door exercises are the various forms of calisthenics and gymnastics taught in turn-vereins, etc.

Most of these cases are poorly nourished, under-fed, and have little or no appetite; for this condition, full doses of elixir iron, quinin and strychnin or tincture nux vomica with a highly nourishing diet containing eggs, milk, cream, butter, etc., in large amounts should be forced. At least eight hours' sleep and often a midday nap of one or two hours. In addition to this certain local measures though of lesser importance may be necessary. These, especially in the unmarried, should be as limited as possible, otherwise the psychic effect does much more harm than the local treatment can do good.

Among the local measures of value are: The intra-uterine pessary, previously mentioned, Brandt's pelvic massage or vibration massage to improve local circulation and occasionally the local administration of atropin. In certain forms of nervous dysmenorrhea which appear to be caused by too active uterine contractions, Fromme³³ and Drenkhahn³⁰ inject 10 to 20 minims of a 1-1000 solution of atropin sulphate into the uterine cavity or place a small tampon saturated with 1 per cent. solution against the cer-

vix and claim to have had very satisfactory results.

Novak³¹ treated 38 cases of spasmodic dysmenorrhea with atropin in doses of gr. 1-120 to gr. 1-100 administered by mouth three times daily beginning two days before the expected onset of menstruation. In thirty of the cases so treated the results were distinctly favorable; the pain either disappeared entirely or else became insignificant. Novak attributes failures, when they occur, to insufficient dosage.

The experimental work of Kehrer³² showed that small doses of atropin stimulate the uterine muscle, while in large doses it inhibits it.

Stolper³³ administers the drug in 1-60 grain doses in suppositories or 1-80 grain doses subcutaneously. He lays much stress upon a study of the blood-pressure taken midway between menstrual periods. He lays down the rule that women with a normal or slightly raised blood-pressure react most promptly to atropin, while when the blood-pressure is greatly raised there is apt to be no response to the administration of atropin.

The atropin treatment of course could not be expected to relieve dysmenorrhea associated with definite pathologic lesions in the uterus or adnexa. The dysmenorrhea occurring in tuberculous women requires the usual treatment for the tuberculosis.

Clelia D. Mosher³⁴ attributes many cases of dysmenorrhea to the fact that women so affected do not employ the diaphragmatic type of respiration. She reports good results from suitable abdominal and breathing exercises.

During the attack, one must treat symptomatically with rest in bed, salines to deplete the system; a hip bath as hot as can be borne for 30 minutes; hot applications to the lower abdomen; sedatives in the form of bromids in large doses (60 grains); or preferably a combination of aspirin and sulphonal, 3 grains of each, every two or three hours until the pain is relieved. I have not found the various specific uterine sedatives of any great value.

The best means of treating dysmenorrhea is by prophylaxis during childhood; a sane educational system in our schools that makes physical training compulsory and equally as important as mathematics; more physical and less mental demands on the schoolgirl; shoes that do not deform the feet and prevent out-of-door sports; finally that the gratification of a good appetite is a valuable asset. Make the girl a tomboy and she will not suffer with dysmenorrhea.

Wall Building.

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DISCUSSION

DR. R. E. WOBUS: I have had two cases of dysmenorrhea without any evident local trouble, both in young girls who had rather large thyroids. In both cases I had rather remarkable results by treating the thyroid with the high-frequency current, but I do not claim that the result was due to that treatment; it might have been the psychical effect.

Formerly a great deal of stress was laid on backward displacement of the uterus; some of the most hopeless cases of dysmenorrhea that I have ever seen were those with some slight dislocation present, but that was not necessarily the cause of the dysmenorrhea. For instance, we get a young woman with dysmenorrhea who has at the same time a retroversion, and we jump to the conclusion that the retroversion is causing the dysmenorrhea. We know now that some babies are born with a retroverted uterus and we also know that many women have retroversion without any symptoms. It seems to me to be wiser, if there be any doubt, to treat first the general condition, improve the patient's health, and then, if necessary, correct any malposition that we may find, because if we tell a woman that she has a retroversion and correct that retroversion without curing her dysmenorrhea she becomes badly discouraged and it is much more difficult to do anything with her after that.

DR. R. S. TILLES: We all know that the vaginal secretions contain streptococci. I did not know the percentage, but will accept Dr. Elbrecht's estimate of 75 per cent. First of all, the vagina has practically no abrasions for the entrance of the streptococci, and secondly, it is only the hemolytic streptococcus that causes trouble in these cases. The vagina sterilizes

itself in ten days by the action of the ferments of the vagina, as has been proven. Drs. Carstens and Wiley have without doubt proved the value of the stem pessary and the fact that it is not dangerous.

We have carried out the Fliess treatment in the Jewish Dispensary for the last three of four years in cases where we could find no pathologic lesions and we have been successful in about 50 per cent. of the cases. The total number may not have been over twenty-four, but we had twelve cases of a successful Fliess treatment. Atropin applied to the cervix has served us very well in other cases; that is, a small pledget of cotton pressed into the cervical canal as far as the internal os, if it can be reached, very often relieves the patient in ten to fifteen minutes. In other cases we have given atropin by mouth and have obtained relief.

DR. O. H. BROWN: I believe a little more emphasis should be placed on the part that the general condition may play in some cases of dysmenorrhea. The speakers before me have emphasized this, but I believe still more emphasis should be placed on it. During the last year I have been agreeably surprised in treating cases for other conditions to find an accompanying dysmenorrhea clearing up. I have in mind one case in particular, a trained nurse nearly 30 years of age who had incipient tuberculous lesions in the apices and received tuberculin treatment for six months or a year. A dysmenorrhea which she had had from the time her menses first appeared entirely left her.

DR. G. D. ROYSTON (closing): The main factors in aggravating a nervous dysmenorrhea are constipation and the occupational feature. Nearly all these cases are troubled with constipation. Those who are not constipated very seldom complain of pain or if so, they complain very little. The manner of living is a great factor. What if she has taken outdoor exercise in times past! She is not taking it at the present time. If she were, she would be having comparatively little dysmenorrhea.

The plan to send the working class of girls to the Y. W. C. A. for exercise, where they can use the swimming pool and the gymnasium, is good, but the servant-girl class has a hard time, because they cannot get away to take these exercises, and there is no place even in the neighborhood where they can go. I think the neighborhood mission should provide some sort of a gymnasium for domestics. In the meantime, for the working girl who is not able to go to such a place, I advise deep breathing exercises; these were shown by the medical director at Stanford University to have relieved a large percentage of cases of dysmenorrhea among the girls attending that school. In addition, I advise sitting up exercises: fold the arms across the chest wall, lying flat in bed, raise into an erect posture, then lie down again, and repeat this forty or fifty times night and morning. They will not be able to keep it up so long at first, but should do so as long as they can.

With the nervous type of dysmenorrhea, the main thing I do is to keep them away as much as possible; stop drinking coffee, substitute milk and coco, take a cold bath or sponge every morning, take as much exercise as they will, not to be indoors any more than they can help, give them a special diet, as much as they can afford of that type of diet best suited to the individual case, and report every four to six weeks, when I give them an encouraging talk with a few minor instructions.

This belief that the patient cannot take a bath when she is menstruating without bringing on a severe dysmenorrhea is more psychic than anything else. The woman who is not very nervous can take a bath.

The cystic ovaries with the dense capsule are very difficult to treat. I use heat on those cases just as I would in any inflammatory case to promote absorption. I would much rather that the patient come back with dysmenorrheic pains than become a wreck after the removal of her ovaries, with all the ailments in

the calendar. Nagel of Berlin would tell these patients: "What cannot be cured must be endured," and after they had quieted down he would tell them some things to do.

Retroversion as a rule is not a cause of dysmenorrhea, outside of the nervous type of women. If the retroversion is movable, put in a pessary that holds it forward, and if the patient is relieved you will know that the retroversion is the factor; if the patient still has symptoms after replacement of the uterus then the retroversion is not the factor. If the uterus is held down by adhesions, I think that is a cause; but retroversion without adhesions is a rare cause of dysmenorrhea.

It was mentioned that the presence of infection and indulgence in sexual intercourse are contraindications for the intra-uterine pessary. In practically all these cases, the cervix must be kept open for months and we can only do that by some such means as the intra-uterine pessary.

I heartily agree with Dr. Brown that the care of the general health is the most important thing in the treatment of dysmenorrhea, particularly in women of the nervous type, and those suffering from constitutional disturbances, such as tuberculosis.

BOTHRIOCEPHALUS LATUS INFECTION IN MISSOURI WITH REPORT OF A CASE

JONAS C. KOPELOWITZ, M.D.
ST. LOUIS

In the *Journal of the American Medical Association*, May 20, 1916, Singer¹ reports a case of *Bothriocephalus latus* infection. He urges that all cases of infection with this variety of tapeworm be reported "if only to awaken interest and stimulate search for others."

In 1904 Edsal² stated that the parasite was certainly more common in this country than ever before. This he attributed to the influx of foreign population, the infection occurring chiefly in Russians, Finns and Swedes.

Probably a great many cases could be discovered in Missouri by routine examination of feces of our foreign patients. It would not be surprising to find that some of those patients who are branded as neurasthenic harbor this or other parasites.

There is very little evidence at present to justify an assumption that native foci of infection exist in this country. Probably foci of native infection will be developed here in the future and for this reason it is highly important that all cases should be reported if we wish to prevent this parasite from gaining a foothold here.

The intermediary host for the worm, that is, the cysticercus stage, is found in fish. Nickerson³ has frequently found the larvæ of *Bothriocephalus latus* in fish caught in the Great Lakes. Willson⁴ states that the reason this infection is not more common here is because of the fact that the custom of eating

raw or half-cooked fish is indulged in only by those who have learned the habit in other lands.

The parasite is at present likely to be met with only in foreigners, but it is important to remember that it is not only in those who have recently arrived in this country that it is likely to be found, for it is known that persons may harbor this parasite from childhood to advanced years. McFarland has reported a case where the worm had apparently been present for at least sixteen years.

Some of the cases of *Bothriocephalus* infection present an anemia which is indistinguishable hematologically from primary pernicious anemia. This anemia seems to be an expression of a toxic hemolysis, the toxins being elaborated by the worm in the intestine of man. Only about 10 per cent. of the cases seem to have this associated anemia.

Descriptions of *Bothriocephalus latus* may be found in any textbook on clinical laboratory work. Suffice it to say that the segments of this worm are chiefly characterized by the central, rosette-shaped uterus and by having the sexual pore in the median line and not on the edge as in the *Taenia saginata* and *solium*.

Mrs. E. K., aged 22, living in St. Louis, a native of Russia, came to the Jewish Dispensary on May 22, 1916. She complained of cramps in her abdomen associated with the passage of "pieces of worm." Otherwise she felt perfectly well. She has been in the United States four years and has noticed segments for only two years. On questioning patient as to whether she was an extensive indulger in meats she replied that she ate a great amount of fish.

As patient had purged heavily before seeing me she was given a prescription as follows: Oleum aspidii 3 i, chloroform 3 ss, oleum tigllii m ii, and glycerin q. s. 3i. This she was to take at 8 the following morning followed by Epsom salts. At noon that day she brought me a very well preserved specimen of *bothriocephalus latus* about 13½ feet long, head included. Her feces contained abundant ova.

Physical examination: Patient medium stature, fair color, lungs and heart negative. Blood picture negative. No eosinophilia. Hemoglobin 85 per cent. Urine negative. A week later feces were negative for ova and segments.

The fact that two cases are reported from Missouri in so short a time suggests that there may be many more cases in this state.

1237 North Taylor Avenue.

A FEW INTERESTING FINDINGS AS REGARDS THE CLOTHING THE PATIENT WEARS WHEN ROENTGEN-RAYED

J. S. YOUNG, M.D.
ST. LOUIS

The question of the Roentgen ray is becoming more complex in one way and in another it is becoming more simple—more complex from the point of view of interpretation of various

1. Singer: Jour. A. M. A., 1916, lxvi, 1618.

2. Edsal: American Med., 1914, viii, 1087.

3. Nickerson: Jour. A. M. A., 1906, xlv, 711.

4. Willson: Am. Jour. Med. Sc., 1902, cxxiv.

shadows, which may be seen in fluoroscopy as well as radiography, and more simple from a technical standpoint, because a child can almost operate one of the later types of Roentgen-ray machines and get good roentgenograms, but it is a question of what we see after the plate is made.

There are many things that are to be taken into consideration in the interpretation of roentgenograms, such as dark-room technic, kind and length of exposure, condition of the part to be Roentgen rayed, distance of anode from subject, the kind of plate used, condition of the emulsion, whether old or not, and the kind of clothing that the patient wears when being examined. The latter phase is one which I wish to speak of now.

The question arises, "What kind of clothing should a patient wear when being examined, or should the part be left bare?" Personally, I think it should, but there are cases in which this is impossible. When it can be done I think it best, but since we cannot always have this, we must then ask what clothing is objectionable, and why is it so?

This, of course, leads us to the chemistry of the different kinds of material used in making clothing. As a matter of fact, everything that has measurement at all resists the rays to a certain extent, but the thickness of the object does not matter so much as the chemistry. For instance, one-fiftieth of a millimeter of lead will resist the rays more than 1 mm. of aluminum; therefore, we conclude the lead is practically fifty times as impervious as aluminum.

That which is true of metal is true of different kinds of cloth, for each cloth contains more or less metal of some kind. Of all the clothing one may wear, it seems that silk is the most impervious. It appears that an ordinary silk waist shows more imperviousness than even a bathrobe, whether it be made of wool, cotton or what-not. Therefore, we should be very careful to ask the patient about his or her clothing before giving an opinion on obscure shadows which are seen in very thin plates.

One mm. of silk will filter out as much short or soft rays as 1 mm. of aluminum. I shall try to prove this by some experiments I did some time ago:

1. I folded silk until I had 1 mm. in thickness, placed it beside a benoist penterometer, then made an exposure. I found that the silk gave just as dense a shadow as was made by 1 mm. of aluminum.

2. I used two cords for this experiment of like dimensions and placed them side by side. One cord of cotton, the other of silk. I found after developing the plate that the silk gave a very dense shadow, while the cotton gave practically no shadow at all.

3. In this experiment I made a plate of the metacarpal bone of the hand by the side of a silk cord, and found that the density of the

shadow made by the cord was equal to that of the bone itself.

4. For the fourth experiment I used 500 pieces of silk of different qualities, some cheap and some that were better in quality. I found that all silks are more or less impervious to the rays; this degree depends, it seems to me, on the quality of the silk.

5. For this experiment I took an ordinary bath towel, folded it four or five times, placed it beside a piece of weighted silk, folded the same a number of times, placed the two before the fluoroscope; the bath towel, which was nearly 2 inches thick, gave practically no shadow at all, while the silk gave a perfectly dense shadow. This, of course, was a great surprise to me, and led me to question myself as to many shadows I had interpreted on thin plates in days gone by.

After these experiments and many others I have made, which will prove the point for which the paper is written, I have come to the conclusion that a glove can be made of silk, which may be heavily impregnated with lead, and owing to its weight and thickness one can, in a measure, feel what he is doing in an abdominal palpation.

We all know that a part of the Roentgen rays are stopped by the large bundlesome glove we use today. This being true, in my opinion, the roentgenologist will be helped materially; being able to feel the consistency of the part palpated, I have cause to believe that silks may be graded by the use of the fluoroscope. At any rate, I have a thousand pieces of silk graded 0, 1, 2, 3, according to the amount of resistance they offer to the rays or the density of the shadows cast on a Roentgen-ray plate with a mild exposure, say about one-half X-unit, or what we would term one-half therapeutic dose to the skin.

There are many varieties of silks. All resist the rays more than ordinary woolen or cotton cloth, but the cheaper silks seem to be more impervious to the rays, for the simple reason that they are weighted with different metals, and consequently the cheaper variety contains more of the metal than the higher qualities. This is done to make the silk thicker, but as to the variations of the many silks, it is pretty hard to say just what the ratio is. However, it seems to be in favor of the cheaper silk. I shall not attempt to go into this phase of the question, as it would require a quantitative analysis of the different varieties of silk and a comparison of the impervious substances in each variety.

These are a few observations that I have made in the past year. Perhaps others have seen the same things in many of their cases, but I think these things are important enough for consideration by the surgeon, roentgenologist or any other person who may be directly or indirectly interested in the subject of medicine.

I recall a case where a Roentgen ray was taken; the examination was made for some involvement of the coccyx. There happened to be a silk cord in his underwear. This cord fell between the plate and the part examined. It was some time before the diagnosis could be made of the shadow seen on the plate, but finally the question arose about his clothing and this cord was found, which explained the presence of the wormlike shadow seen at the base of the coccyx.

I must not forget to say also that the rays are obstructed in at least 10 per cent. of the fluoroscopic examinations by silk skirts, kimonos, dresses, etc. If this is true, may it not also be true that when one is looking for the finer details in fluoroscopy he may overlook them, due to the fact that the very part of the ray that would show the image on a fluorescent screen is filtered out by the clothing that the person may wear? Consequently, the thing the operator is most interested in is the thing that will stop only the short or soft ray, and he misses the object he is most desirous of seeing. Let us, then, be careful to inquire concerning the clothing and all other things that we may come in contact with that will cause false shadows on the plate or the fluorescent screen.

600 South Kingshighway.

FAKES AND EFFICIENCY IN THE MEDICAL PROFESSION *

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In endeavoring to bring outside opinion to the members of this society I have chosen the subject, "Fakes and Efficiency," on which I am sure the ideas and opinions of the medical profession varies as to the line of demarcation where fakes and efficiency begins and ends.

In my remarks I wish to steer clear of discussing any point or practical phase pertaining to your unique profession, knowing you do not expect it. And for me to attempt to do so would be to strike at the outset one of your torpedoes which so many self-invited persons run upon while seeking to prey upon your well-won attainments, and who, when the test of science and skill is applied, are shipwrecked and driven from the ranks and declared a fake.

Mind you, the President of the United States, in a recent address in our neighboring city paid no ordinary tribute to the members of the medical profession when he said that the practice of the medical science in the United States had reached the highest attainments of any nation in the world.

Such a great truth from such a great source spoken of such a great nation was indisputable argument against all those who are not versed

in the knowledge and practice of the physical constitution.

Such a fact does not support in one jot or tittle those who disregard the standard reached by the profession and who try to enter in and practice and profit by some other way than the straight gate of efficiency. They are the fakes.

A few months ago a rich mine owner of Mexico as well as of the United States, before boarding a vessel at Galveston about to sail, in the hope of finding a cure of that dreaded disease, leprosy, offered \$4,000,000 to any individual, physician or board of physicians, who would effect a cure. This was asking the scientific world if another step had been taken, and to whom it was directed was self-evident.

It is said that the greatest engineering achievement of the world was possible only through medical science, i. e., the construction of the Panama Canal.

The Red Cross and the army hospitals demand and accept only the most skilled. The hospitals in our great cities every day and hour demand the most efficient. In the country home and in town and village, in fact wherever the highest degree of human intelligence exists, those best prepared are demanded.

As a member of the Legislature of our great state I could plainly observe legislation was sought that was not in keeping with the general advance of the profession—legislation ruinous, in fact, compared to the degree reached by other states in the way of requirements of those who are permitted to practice in the profession.

The greater our medical colleges and the stronger the course, just so sure the stronger are those who go out from them. Those who have the broadest scope of practice in a general way are the ones who acquire a more special knowledge, like the teacher who teaches the different subjects until he becomes a specialist in each of them.

So I wish to assure the members of your honorable society that each year brings the people generally to a more true realization that the true and trained and classed are the physicians most in demand.

The health care of the growing child, his diet, hygiene, training, development and prevention of disease are cared for by the efficient, and for such and for you and yours we are expecting a brighter day. A day soon to dawn we pray when you shall be placed in the balance and prove that those are wanting who propose a remedy which shocks the intelligence of those who know best and hang about and harass those who do best.

We assuredly hope that paid lobbyists will no longer try to enact laws which would permit our people to be preyed on by those who would take advantage in the name of your high calling. "Truth crushed to earth will rise again." Efficiency shall lead outward and onward and in its wake shall be engulfed the fake.

* Read before the Cass County Medical Society, Feb. 10, 1916.

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EDITORIALS

THE COURT AND METHODS OF MENTAL EXAMINATION

Again we have occasion to see a court disagree with the professional opinions of physicians. In the *Literary Digest* for August 19, 1916, comment is made upon the official rejection by Justice John W. Goff, of the New York Supreme Court, of the Binet-Simon scale for measuring mental development.

There might be advanced many arguments for and against such decisions as this without going into the merits of this especial instance. The tests themselves, as the Justice correctly remarks, "seem to imply an arbitrary standard of mental requirement." It would indeed be difficult to select any set of mental tests which would not be to a degree arbitrary in that they must be comparative with what we determine to be the norm. But the selection of these particular tests was made upon an entirely experimental basis and it is fairly well recognized that they are not adapted generally to all classes and races of children. That they have been found unsatisfactory to many is well known to those who have worked with them and followed the literature on the subject. But that the scale was the first to approach satisfaction and the only one available for many years must also be remembered.

One would certainly have difficulty in understanding what Mr. Goff had in mind when he said, "standardizing the mind is as futile as standardizing electricity." It is undoubted that there would be more contentment if we could speak of mental ability in terms even approximating the accuracy of electrical measurements. The Justice says "all criteria of mental incapacity are artificial and the deductions therefore must necessarily lack verity and be to a great extent founded upon conjecture." He contrasts with this method of judgment the law, which "holds fast to proven fact." It would be more nearly correct perhaps to say that it is the presumption that the law holds fast to proven fact for if it were as the Justice states it would be hard to understand how one court could accept the Binet-Simon tests and

another reject them. This has been the fact in the case.

Even though there are some unsatisfactory features about the Binet-Simon tests, and this is true of almost any set of similar tests, it certainly must be admitted that such attempts at standardization of mental endowment have been met by a large measure of practical success. Men who from their experience, both psychologists and physicians with psychologic bent, are placed in a position to judge of the merit of these mental tests and not lawyers who must form their opinion upon the basis of their own lack of understanding of this field of special knowledge, should evaluate their accuracy or applicability to particular situations. And we see it is from the very men who are qualified by such personal and scientific experience that we receive the opinion that the tests are of value. Moreover, other courts and other officers of the law have recognized this by the establishment of psychopathic clinics in connection with the court and prison. The legal profession makes much of its professed high regard for personal liberty but in so far as the feeble-minded and insane are concerned its members seem to be overburdened with the belief that all persons and particularly physicians are conspiring to unjustly deprive such individuals of their liberty by internment in an institution for mental delinquents. It would be far better if the court would send fewer unrecognized ones to the penitentiary rather than to the hospital properly built, equipped and intended for their care and treatment.

The Binet-Simon tests, or better, mental tests with the deficiencies and errors of the Binet-Simon tests removed, certainly have proved for themselves the fact that they have a very definite value in the standardization of mental ability and the detection and limitation of the several grades of feeble-mindedness. For anyone broadly to contradict this is to reveal an ignorance of the last decade's advances in mental medicine and applied psychology. Bearing in mind that it is recognized that tests of this character have their shortcomings, it is no exaggeration to say that the work of Binet and Simon in elaborating their scale resulted in the very first rational scheme of measurement of mental development which was ever devised. The value of the tests has been proved by their application to thousands of children by many workers. By this same application the defects of the system have been brought to light and improvement has resulted so that through these tests and the stimulus which they gave to the investigation of mental defect we have learned more about the feeble-minded classes in the last decade than was known in the preceding hundred years. And, moreover, the knowledge thus gained is not of purely laboratory or academic

interest but of the greatest practical value. The criticism or rejection of such tests by any one person and especially one not fitted by special experience to judge of their merit, cannot in the smallest way detract from the practical worth and value or the scientific interest which the tests have demonstrated and developed within the past ten years. And it is just to say here that though the original tests had many flaws, and though the continued experimentation and labor from the hands of other investigators may result and already has resulted in newer and better tests, the credit of the originating impetus must always redound to Professor Binet and his associate later in the work, Professor Simon.

It would not be desirable to create the belief that these tests or similar ones can be applied by every one, nor by any one who has not had a sufficiently adequate experience to furnish the necessary qualifications to make the application properly and therefore of value. Tests such as these cannot be used like a yard stick to measure the extent of mental growth. No tests are infallible and no test has yet been devised which alone and by itself will serve to estimate correctly the mental condition of any individual. The life history must be known, environment, opportunities and reactions must all be studied carefully. Such observations serve to permit of a more rational application of the tests and allow the formation of a more adequate and reliable judgment of individual mental development and ability. When carried out under these restrictions mental tests, such as the Binet-Simon, have a most definite and distinct value and it is time our courts awakened to this fact.

ELIMINATION OF POLITICS FROM THE MANAGEMENT OF STATE ELEEMOSYNARY INSTITUTIONS AND THE ATTITUDE OF CANDIDATES TOWARD THE MEDICAL PROFESSION AND PUBLIC HEALTH MEASURES

At the annual meeting of the Association held at Excelsior Springs last May, a determined spirit was very evident among the members to make a strong fight for the elimination of politics from the control of state eleemosynary institutions. This feeling culminated in the adoption of two motions—one ordering a letter sent to all candidates for governor and lieutenant-governor requesting them to state their attitude toward this question and publish their replies in *THE JOURNAL*. The other motion directed the President to appoint a committee to draft a bill for the accomplishment of this

object. The letter and replies of the candidates were published in the July issue of *THE JOURNAL*. The committee has been appointed and is composed of the following: C. R. Woodson, chairman, St. Joseph; G. Wilse Robinson, Kansas City, and M. P. Overholser, Harrisonville. This committee will submit the draft of the bill to the Committee on Health and Public Instruction, after which it will be published in *THE JOURNAL* and submitted to the component county societies.

THE ATTITUDE OF THE CANDIDATES

Now that the issue has narrowed down to the nominees of the principal political parties, we will give a digest of the replies received and the attitude we may expect the successful party to assume on this important question.

Judge Henry Lamm, Sedalia, Republican candidate for governor: We received no reply to our letter.

Frederick D. Gardner, St. Louis, Democratic candidate for governor, replying to our letter, said: "I most assuredly favor eliminating politics from the eleemosynary institutions of the state." Subsequently, on July 12, Mr. Gardner sent a letter to every physician in the state from which we quote: "If I am elected I shall keep the eleemosynary institutions free from political influences."

Roy F. Britton, St. Louis, Republican candidate for lieutenant-governor, says in reply to our letter: "Your plan is not explained in sufficient detail for me to pass judgment upon it definitely."

Wallace Crossley, Warrensburg, Democratic candidate for lieutenant-governor, in reply to our letter, says: "I am glad the State Medical Association has taken this matter up and I am in full sympathy with the movement." Senator Crossley has represented the Seventeenth District for several years and has earned the confidence and esteem of the medical profession by his consistent support of all measures calculated to protect the health of the people and indorsed by our Association.

While we are discussing candidates, it will not be inappropriate to mention something of the record of candidates for other offices in relation to their attitude on public health measures.

James H. Mason, Springfield, Republican candidate for attorney-general, was prosecuting attorney for Greene County in 1912 and candidate for attorney-general. In May, 1912, the Greene County Medical Society presented evidence to Mr. Mason against chiropractors for violating the law and asked him to prosecute these persons. Mr. Mason ignored the matter until the medical society brought the matter to the attention of the governor and the attorney-general, who directed Mr. Mason to take action,

but even then he was dilatory and did not take definite steps toward prosecuting the violators of the law until he learned that the Greene County Medical Society had voted to retain an attorney and bring action against him for dereliction of duty. He then issued the necessary papers, but the prosecution of the case by him, according to the record of the Greene County Medical Society, was faulty and the guilty persons escaped when the court sustained a demurrer to the evidence as presented by Mr. Mason.

Frank W. McAllister, Paris, Democratic candidate for attorney-general, was state senator in four sessions of the General Assembly and always supported the measures indorsed by the Missouri State Medical Association.

Among the candidates for representative there are a number who served in the last General Assembly and are asking for reelection. Their attitude on measures opposed by the Missouri State Medical Association may be judged by their vote on the optometry and chiropractic bills. We published the votes of these men in April and May, 1915, and now republish the vote of those who are asking for reelection so that our members may take intelligent action at the polls next month. The following are candidates for reelection who served in the Forty-Eighth General Assembly and their vote on the two bills: *

County	Representative	Vote on Optometry Bill	Vote on Chiropractic Bill
Andrew.....	J. P. Cooper, Savannah.....	Yes	No
Audrain.....	E. A. Shannon, Mexico.....	No	Yes
Bates.....	James N. Sharp, Butler.....	No	Yes
Benton.....	R. W. Hedrick, Cole Camp..	Yes	Yes
Boone.....	W. H. Sapp, Columbia.....	No	No
Buchanan.....	F. J. Staedtler, St. Joseph...	Yes	No
Buchanan.....	J. D. Robinson, St. Joseph..	Yes	Yes
Camden.....	John A. Floyd, Linn Creek...	Absent	Absent
Cape Girardeau..	H. W. Bridges, Cape Girardeau	Yes	Yes
Cass.....	C. S. Nelson, Freeman.....	No	Yes
Christian.....	W. T. Holbert, Ozark.....	No	Yes
Clark.....	F. M. Harr, Kahoka.....	Yes	Yes
Clay.....	B. T. Gordon, Liberty.....	Yes	No
Clinton.....	Tom L. Wiley, Cameron.....	No	Yes
Cole.....	A. T. Dumm, Jefferson City..	Yes	No
Cooper.....	L. M. Cordry, Otterville....	Yes	Yes
Crawford.....	L. H. Lewis, Cuba.....	No	Yes
Dallas.....	J. H. McArron, Longlane...	No	Yes
Dent.....	J. H. Welch, Doss.....	Absent	No
Dunklin.....	James A. Bradley, Kennett..	No	No
Franklin.....	Fred H. Kasmann, Etlah....	Yes	Yes
Harrison.....	W. E. Land, Gillman City...	Yes	Yes
Jackson.....	F. C. Wilkinson, Kansas City	Yes	No
Jackson.....	Wm. Hicks, Kansas City....	Yes	Yes
Jackson.....	John H. Taylor, Kansas City	Yes	Yes
Jackson.....	D. M. Keenan, Kansas City..	Yes	No
Jasper.....	Frank H. Lee, Joplin.....	Absent	Yes
Lawrence.....	P. H. Barris, Verona.....	No	No
Lincoln.....	Josiah Whiteside, Apex.....	Yes	Yes
Linn.....	Chas. E. Kelley, Brookfield..	No	Absent
McDonald.....	W. O. Dixon, Anderson.....	No	Yes
Macon.....	J. C. Bradley, Goldsberry...	No	Yes
Madison.....	W. A. Engel, Fredericktown..	No	No
Maries.....	F. M. Carrington, Broadway.	Yes	No
Miller.....	John W. Conner, Eldon.....	Absent	No
Moniteau.....	A. L. Douglas, Clarksburg...	No	Absent
Montgomery.....	H. W. Kamp, Bellflower....	Absent	Yes
Newton.....	George A. Pogue, Stella.....	No	Yes

* This list may not be complete, as some counties had not reported when it was compiled.

County	Representative	Vote on Optometry Bill	Vote on Chiropractic Bill
Nodaway ...	Charles Hyslop, Maryville...	No	No
Perry	A. R. Lukefahr, Perryville...	No	Yes
Pettis	C. W. McAninch, Hughesville	Yes	Yes
Phelps	Frank H. Farris, Rolla.....	No	No
Platte	D. A. Chesnut, Platte City...	Yes	Yes
Polk	Chas. U. Becker, Wishart...	Absent	Yes
Pulaski	A. L. Crumley, Richland....	No	Yes
Ralls	Drake Watson, New London..	No	No
Randolph	R. R. Correll, Clark.....	Yes	Absent
Reynolds	J. M. Mooney, Dagonia.....	No	Yes
Ripley	J. F. Fulbright, Doniphan...	No	Yes
St. Charles.....	R. C. Haenssler, St. Charles.	Absent	Yes
St. Louis.....	J. W. Settle, Florissant....	Yes	Yes
St. Louis.....	H. E. Sprague, Kirkwood...	Yes	Yes
Scott	Joseph D. Bowman, Oran...	No	Yes
Shannon	F. M. Jones, Winona.....	Yes	Yes
Shelby	Wilson L. Shouse, Shelbyna..	Yes	Yes
Stoddard	F. M. Norman, Dexter.....	Yes	No
Sullivan	Joe Nickell, Browning.....	No	No
Taney	Guy B. Mitchell, Branson...	No	No
Warren	Thomas B. Hodges, Case....	No	Yes
Washington	Wm. H. Evens, Hopewell...	Yes	Yes
Webster	J. V. Atteberry, Elkland....	No	Absent
Wright	W. S. Griffith, Mountain Grove	No	No
St. Louis City...	H. C. Erman, 2358 Tennessee	Absent	Yes
St. Louis City...	W. F. Depelheuer, 1321 Allen	Yes	Yes
St. Louis City...	L. E. Trieseler, 1624 Dolman	Yes	Yes
St. Louis City...	H. Kraemer, 2510 Slattery...	Yes	Yes
St. Louis City...	F. E. McAdams, 1316 Cass...	No	No
St. Louis City...	J. J. Moroney, 519 Walnut...	No	Yes

STATE AID FOR PREVENTING BLINDNESS

The efforts of the American Medical Association in general and of the Missouri State Medical Association in particular, for the prevention of blindness are to receive substantial aid and encouragement from the newly created Missouri Commission for the Blind.

The law provides that the Commission shall "collate information concerning the physical condition of the blind, the causes of blindness and to adopt such measures as the Commission may deem expedient for the prevention and cure of blindness."

In order to accomplish its purpose with the greatest promptness and effectiveness the Commission requests the cooperation of the medical profession throughout the state for no other group of citizens better understands the need for this work. As in all movements concerned with health and public welfare so in this instance the people depend on their physicians for enlightened leadership.

In addition to campaigns for education in the prevention of eye diseases and blindness and the enlistment of public interest in the industrial welfare of the blind, the medical profession is constantly making its unique contribution, by the relief of those afflicted with dangerous or contagious ocular maladies.

The Commission proposes to aid in this work by making provision for the expenses of hospital care and treatment for indigent persons in all parts of the state. As the funds now available are not large it may be possible to

reach only a limited number. Whatever is done will reduce by just so much the number suffering from curable blindness or threatened by blindness in this state. The Commission realizes that money thus spent is in reality an investment fully justified by the return of increased producing capacity for the commonwealth and by individual happiness and prosperity.

A representative of the Commission's Committee on Prevention of Blindness has been appointed in each county. The selections were made through the secretaries of the county medical societies and the appointee is authorized to select a county committee of which he shall be chairman. Every patient whose application for treatment for eye disease or relief from blindness is indorsed by the county chairman certifying that the patient or his family is unable to bear the expense of such treatment, will be provided for by the Commission so far as its funds permit.

The endeavor will be to place each patient under the care of the oculist selected by the patient's own physician, or in the event that the patient has no regular medical adviser the selection may be made by the county chairman. No selection will be made at the Commission headquarters for such applicants. However, before the county chairman shall incur any expense in a given case he must notify the Commission and receive authority to do so, for this arrangement can continue only so long as the funds are not exhausted.

The county chairman may collect special funds for the care of patients in his own county and the Commission is authorized to receive private donations.

With the liberal attitude of the Commission and the generous cooperation of the medical profession it seems assured that the results of the small appropriation by the state legislature will be more far-reaching and more lasting in the benefits conferred than many of double or treble the amount for other purposes and it is hoped that future legislatures will be impressed with the necessity of greater liberality which will mean ultimately greater economy.

PEDIATRICIANS MEET IN ST. LOUIS

The second annual meeting of the Central States Pediatric Society will be held in St. Louis on October 17 and 18. In view of the rapid advance of pediatrics, this society fills a very definite need in this section of the country and the meeting is sure to furnish considerable of interest to physicians whose practice deals largely or entirely with children. The meeting will consist of brief papers and clin-

ical demonstrations, the program for which is appended below.

The meeting of Tuesday morning and Wednesday morning and afternoon are open to visiting physicians, whether members of the society or not.

The program follows:

TUESDAY, OCTOBER 17

- 10:00 a. m. At St. Ann's Infant Asylum, Page and Union.
Rickets as a Causative Factor in the Production of Weak and Painful Feet In Children, Dr. Alexander E. Horwitz
Manual Treatment of Intussusception.
Practical Points in the Examination of Stools, Dr. John Zahorsky.
Institutional Care of Infants, Dr. Jules M. Brady.
Exhibition of Pathological Specimens, Dr. R. L. Thompson.
Diagnostic Value of Chemical Blood Examinations, Dr. Wm. Englebach.
Case Reports, Dr. Gustav Lippman.
Demonstration of (1) Hodgkin's Disease in a 3-year-old Child; (2) A Case of Oxycephaly, Dr. J. Louis Swarts.
- 12:30 p. m. Luncheon to Visiting Members, given by the St. Louis Pediatric Society.
- 2:00 p. m. Automobile Trip to Open Air School, St. Louis Infectious Hospital and the Country Department of St. Louis Children's Hospital. (Demonstrations).
- 7:00 p. m. Dinner, followed by Annual Meeting and Election of Officers.

WEDNESDAY, OCTOBER 18

- 9:30 a. m. St. Louis Children's Hospital, Euclid and Kingshighway.
Effect of Prolonged Thyroid Therapy on Cretinism, Dr. Geo. M. Tuttle.
Functional Kidney Tests in Scarlet Fever; A Case of Gaucher's Disease, Dr. Borden S. Veeder.
The Spinal Fluid in Poliomyelitis; Clinical Types of Cerebro-Spinal Syphilis, Dr. P. C. Jeans.
Tuberculosis in Infancy; Creatin and Creatinine Metabolism in Infants, Dr. T. C. Hempelman.
Studies of the Heart in Diphtheria, Dr. Hugh McCulloch.
The Urine in Normal Children, Dr. M. R. Johnston.
Injections of Convalescents' Blood in Pertussis, Dr. A. S. Bleyer.
Clinical Demonstrations, Dr. P. G. Hurford.
Malformations of the Gastro-Intestinal Tract, Dr. O. F. Bradford.
- 12:00 m. Inspection of Hospital and Washington University Medical School.
- 1:30 p. m. Luncheon, St. Louis Children's Hospital.
- 2:30 p. m. Tonsillectomy Demonstration, Dr. Greenfield Sluder.
The Pathology of Tuberculosis in Childhood, Dr. E. L. Opie.
Title Deferred, Dr. M. B. Clopton.
Operative Treatment of Tuberculosis of the Spine, Dr. N. Allison.
Intentional Hypertonia in Children, Dr. Sidney I. Schwab.
Some Phases of Neuro-Surgery in Children, Dr. Ernest Sachs.

OBITUARY

WALTER CUNNINGHAM OVER-STREET, M.D.

Dr. W. C. Overstreet, for almost thirty-five years a prominent physician of Sedalia, died May 18, 1916, at Punton Sanitarium, Kansas City, following an illness that began in October, 1915; age 49 years.

Dr. Overstreet was born Feb. 17, 1867, at Monmouth, Ill., and was the son of Dr. W. C. Overstreet, deceased. His parents moved to Missouri when he was seven years old and located near Smithton where he received his early education. Taking up the study of medicine he attended the Bellevue Hospital Medical College, New York, by which he was graduated in 1882 and later he took post-graduate work in Berlin. He was a member of the Pettis County Medical Society and the Missouri State Medical Association, and was a Fellow of the American Medical Association. He never married. His funeral was conducted by the Royal Arch Masons and the body taken to Smithton for interment.

JOHN S. WALLACE, M.D.

Dr. J. S. Wallace of Brunswick, a graduate of Bellevue Hospital Medical College, 1873, Vice-President of the Missouri State Medical Association, 1912, and state senator from the Sixth District since 1914, died very suddenly from heart disease while at the bedside of a patient, Aug. 24, 1916, aged 67 years. He was born on a farm near Glasgow, Mo., where he spent his youth. His preliminary education was received at Pritchett College, Glasgow, from which he graduated, and then he "read medicine" with Dr. I. P. Vaughn of Glasgow for about two years. Following this preparation he attended the University of Michigan for one course and finished his medical education at the Bellevue Hospital Medical College. After his graduation he located in Brunswick, where he practiced until his death, with the exception of two periods, one spent in Colorado, the other in St. Louis.

Dr. Wallace took a prominent part in the affairs of Chariton County and the northeast section of the state. He was elected county coroner in 1884, and from 1884 to 1901 he took an active part in the management of the *Brunswick*, a weekly newspaper. He was a student of history and wrote the history of Chariton County in the History of Northeast Missouri, published in 1913.

In the Forty-Eighth General Assembly Dr. Wallace was an influential member of the senate, his wide experience in political and social affairs, his sound judgment and his broad view giving him a prestige which commanded the

respect and confidence of all the members of the legislature. He was chairman of the senate committee on eleemosynary institutions and public health, and a member of the committees on ways and means, roads and highways, university, normal schools, agricultural college and school of mines and enrolled bills. He was a powerful factor in preventing the passage of bills calculated to lower the standards of medical practice or weaken the laws affecting public health. He was a prominent member of the Masonic fraternity and his burial was conducted by that order. He never married and is survived by three sisters. The funeral was attended by a large number of people from Brunswick and surrounding country, and by the Hon. William R. Painter, lieutenant governor, and Senators Goodson, Morton and McClintock.

In the death of Dr. Wallace the medical profession has lost one of its most distinguished members, who was indefatigable in his effort to maintain the high standard of professional life and promote the objects and purposes of the organized medicine.

NEWS NOTES

DR. H. J. CUMMINGS, of St. Louis, is reported being in a very serious condition from cancer of the stomach. He is resting at Atlantic City.

THE editor has information of two communities in the state where a physician is needed. Full information will be given any member desiring to investigate.

Dr. Adolph M. Frank, formerly of Lewiston, Idaho, has located in St. Louis. He has been appointed assistant physician in the out-patient department Washington University Medical School.

EVEN if the woman who was sued for a divorce did use a fly swatter on her husband that is no argument against swatting the fly. It is said a farmer in Illinois sued for a divorce alleging that his wife beat and slapped him with various sorts of implements such as her hands, a clothes brush and a fly swatter.

PARKE, DAVIS AND COMPANY announce the celebration of their Golden Jubilee on October 26. The house has kept pace with the wonderful advances made by the science of medicine during the past fifty years and their achievements during this period are a guarantee that they will be in the forefront to meet all developments that the future may hold for the alleviation of the ills of mankind and the prevention of disease.

THE strike fever made its annual visit to the St. Louis City Hospital and struck the interns who threatened to strike because one of their number had been stricken from the rolls and discharged. Dr. Shutt, Hospital Commissioner, had a striking interview with the would-be strikers and explained that the discharged intern had been guilty of discourteous conduct toward the superintendent of nurses. So there was no strike.

DURING August the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Non-official Remedies:

The Abbott Laboratories: Arbutin-Abbott.

National Pathological Laboratory: Mercurial Oil—National Pathological Laboratory.

E. R. Squibb and Sons: Mercury Red Iodide, 1 per cent., in Oil, Squibb. Barium Sulphate-Squibb for x-ray work. Liquid Petrolatum-Squibb.

THE Seventh Annual Meeting of the Clinical Congress of Surgeons, under the presidency of Dr. C. H. Mayo, of Rochester, Minn., will convene at Philadelphia, Oct. 23-28. The clinical work of the Philadelphia surgeons will be systematized for the occasion so that visitors may attend. The secretary of the congress urges all who expect to attend the meeting to register at the earliest date possible as the limit of tickets for admission to the clinics will be reached long before the date of the opening session. For information address Dr. Franklin H. Martin, Secretary, 30 N. Michigan Ave., Chicago.

MICHIGAN STATE MEDICAL SOCIETY has increased the annual assessment of the members of the component county medical societies from \$3 to \$3.50 per annum, including subscription to the journal. This step was made necessary to meet the increased cost of printing the journal; but even such a sum is an exceedingly modest contribution to the organization that extends as much material benefit and professional influence to its members as does the state medical association. The *Michigan State Medical Journal* occupies a notable position in the forefront of state medical journals so we are glad that it will not be abridged in any of its departments—a step that would have been absolutely necessary if the increase in dues had not been adopted.

THE Salisbury *Press-Spectator* knows the civic value of publicity on town cleanliness. Says the Editor of the *Press-Spectator*:

A clean town attracts attention whenever and wherever it is seen. A dirty one catches the public eye in even less time.

When the streets and alleys and yards and vacant lots in a town are clean and sanitary it bespeaks a like condition on the part of the residents with regard to their personal habits.

During the past few weeks Salisbury has had numerous visitors. In every instance the neat and attractive appearance of the town has elicited commendation. . . . Let's keep it up. Keep lawns well trimmed, weeds in all alleys cut and have all unsightly obstacles removed.

THE September number of the *Journal of the Medical Society of New Jersey* contains the proceedings of the sesqui-centennial of the State Society—the oldest state medical association in this country. The Medical Society of New Jersey had its origin in Middlesex County, July 23, 1766. The celebration of this unique event in medical circles was fittingly observed with speeches, historical sketches and other proceedings, all being adequately presented in the journal. The next oldest societies are the Massachusetts State Medical Society and the Connecticut State Medical Society.

SOMETIME ago a news dispatch from Nevada, Mo., said that violations of the law in that flourishing city had decreased so materially that Mayor Dulin and the city council decided that a police judge had become a luxury instead of a necessity so the council passed an ordinance to abolish the office, which carried a salary of \$500. In the place of the police judge a justice of the peace was named to perform the duties of that office, the remuneration to come through the fees collected. "Violations of the city's laws are so rare," said Mayor Dulin, "that the fees won't be enough to buy chicken feed."

Mayor Dulin is one of the most distinguished physicians in Nevada and a member of our Association. In the recent election he was re-elected Mayor by a large majority. We give space to this interesting announcement because it may serve as a stimulating example to other cities to put physicians at the head of the city government.

THE next examination for appointment in the Medical Corps of the Navy will be held on or about Oct. 23, 1916, at Washington, D. C., Boston, Mass., New York, Philadelphia, Pa., Norfolk, Va., Charleston, S. C., Great Lakes (Chicago), Ill., Mare Island, Cal., and Puget Sound, Wash.

The first stage of the examination is for appointment as assistant surgeon in the Medical Reserve Corps, and embraces the following subjects: (a) anatomy, (b) physiology, (c) materia medica and therapeutics, (d) general medicine, (e) general surgery, (f) obstetrics.

The successful candidate then attends the course of instruction at the Naval Medical School. During this course he receives a salary

of \$2,000 per annum, with allowances for quarters, heat, and light, and at the end of the course, if he successfully passes an examination in the subjects taught in the school, he is commissioned an assistant surgeon in the Navy to fill a vacancy.

Full information with regard to the physical and professional examinations, with instructions how to submit formal application, may be obtained by addressing the Surgeon General of the Navy, Navy Department, Washington, D. C.

DR. C. H. SHUTT, of St. Louis, has been reappointed hospital commissioner by the director of public welfare. This announcement marks the passage of the old order of affairs and the beginning of the new in medical politics in St. Louis and we hope it is the death rattle of that pernicious system of political intrigue in hospital appointments that formerly prevailed. This, however, will all depend on the director of public welfare because he has sole power to appoint the hospital commissioner. The delay in announcing Dr. Shutt's reappointment, it is said, was caused by the Mayor of St. Louis who was strongly in favor of the appointment of "a personal friend." Director Tolkacz, however, has been satisfied with Dr. Shutt's administration of the hospitals and declined to make the change the Mayor desired. The *St. Louis Republic*, which has consistently advocated the removal of eleemosynary institutions from political control, remarks editorily:

The reappointment of Commissioner Shutt as head of the hospital system had been a foregone conclusion for several months, but the event is worthy of a moment's notice.

There was a time when the mayor would have been glad to make room for one of his personal friends in that position, and a charge was trumped up by which it was proposed to make Commissioner Shutt's departure from office an exemplary thing. He was to be punished for not having voted at the Charter election but the absurdity of dismissing a good hospital commissioner on a charge of that kind was so apparent that the real motive was not obscured at least.

Director Tolkacz insisted all along that Dr. Shutt would be reappointed and now the thing has been done. A competent official has been retained because he has rendered good service to the city, and only the spoilsman mourns.

THE Rockefeller Foundation has provided a hospital ship for the Sulu Archipelago. The ship will go from island to island meeting the people at established points, bringing medical relief to the afflicted, training midwives, giving general instruction to the people and guiding and stimulating them to self-help. A preliminary investigation showed that the medical needs of the people are great. They suffer from malnutrition and from diseases fostered by filth and negligence. A similar work among the Moros had a civilizing influence on that

people and now it is possible for the doctor and nurse to go in safety to many places that have resisted all other means of contact. The foundation has arranged to carry out two sets of experiments on malaria on an extensive scale, one to test the practicability of malarial control by detecting the carriers and freeing them of the parasites, the other to test the practicability of malarial control by means of a combination of control measures other than extermination, by major drainage operations. The Foundation appropriated ten thousand dollars to the National Committee of Mental Hygiene for the maintenance of a psychopathic clinic at Sing Sing Prison, New York. This is the first step toward the organization of a comprehensive medical service to insure the careful examination and treatment of every prisoner with the hope that it may be possible to correct many correctable defects and improve the mental and physical standard among prisoners.

MEMBERSHIP CHANGES, SEPTEMBER, 1916

NEW MEMBERS

Levi D. Denton, Braggadocio.
John R. Green, Independence.
Chas. A. Wells, Deering.

CHANGE OF ADDRESSES

Richard W. Baker, Los Angeles, to St. Louis.
F. A. Baldwin, 209 Metropolitan Bldg. to 2124 S. Grand Ave., St. Louis.
L. C. Bauman, 4th and Edmond Sts. to 205 Lincoln Bldg., St. Joseph.
Frank W. Bennett, Plattsburg to Granger.
Louis Boonschaft, St. Louis to Los Gatos, Calif.
H. C. Brookshire, Hermitage to Weaubleau.
A. T. Fisher, 2605 Olive St. to N. W. Cor. 12th and Brooklyn, Kansas City.
R. L. Garner, 210 Argyle Bldg. to 4050 Broadway, Kansas City.
J. Henry George, Little Blue to Leeds.
W. E. Handley, 223 South St. to 740 Landers Bldg., Springfield.
Christiana V. Hammler, Union to Hartsburg.
Aloys S. Heithaus, 2919 Accomac St. to 3427 Washington Ave., St. Louis.
H. D. Jerowitz, 409 Argyle Bldg. to 301 Gordon and Koppel Bldg., Kansas City.
Wm. Kerwin, 4900 Laclede Ave. to Lister Bldg., St. Louis.
J. D. Musick, Rosalia, Kan., to El Dorado, Kan.
Cornelius O'Connor, 1416 E. 12th St. to 825 E. 13th St., Kansas City.

H. C. Powers, 515 Main St. to 803-4 Frisco Bldg., Joplin.

W. C. Proud, 6th and Francis to 218 Phys. and Surg. Bldg., St. Joseph.

Gustav H. Reinhardt, 3540 S. Grand Ave. to 5101 Delmar Ave., St. Louis.

Emil Simon, 2004 Geyer Ave. to 2311 Ann Ave., St. Louis.

H. E. Songer, 4608 Chestnut St. to 4541 *Prospect Ave., Kansas City.

F. H. Spencer, Ballinger Bldg. to 204 Phys. and Surg. Bldg., St. Joseph.

F. J. Sullivan, Wall Bldg. to 5896 Delmar Ave., St. Louis.

W. T. Todd, Centralia to Guymon, Okla.

B. W. Toothaker, 710½ Francis St. to 215 Phys. and Surg. Bldg., St. Joseph.

Alfred L. Wessling, Springfield to Martinsville.

REINSTATED

Baxter W. Tadlock, St. Joseph.

TRANSFERRED

John A. Rusk, Bloomfield to Clinton County (Iowa) Medical Society.

DROPPED

J. S. Richardson, Union.

DECEASED

John O. Guhman, St. Louis.

W. C. Overstreet, Sedalia.

J. S. Wallace, Brunswick.

MISCELLANY

THE OPTICIAN

The recent gathering of opticians at Providence, R. I., for their annual meeting of their national organization has left at least two well-marked impressions on the public—first, everybody should wear Crooke's lenses; and, second, that the meeting was one of physicians. Both ideas are erroneous, but the latter is really the more serious, inasmuch as many people will be lead to think that they are consulting oculists and receiving a physician's examination when they have their eyes examined by the optometrist. The optician, or optometrist, as he now prefers to be called, has a perfectly legitimate place in the practice of medicine, and that is in the furnishing of glasses ordered by an oculist. His position is homologous to the pharmacist, who is admittedly versed in the compounding of drugs, but in these days is rarely considered capable of treating sick persons. The optometrist is not a doctor and should not pose as one. Unfortunately, there are even physicians who do not realize this. It is a common observation of oculists that the optician who does no refraction, but confines his work to his proper sphere of grinding lenses and fitting frames, does far better work than his competitor whose vanity is tickled by being called "Doc."—*The Providence Medical Journal*.

A PRACTICAL CHARITY

Henry Ford's practical charities move one to a forgetting of the visionary and wholly impractical peace cruise to Europe. Mr. Ford was then trying out a theory. It is when he does his philanthropic work along lines which have been tried and well approved, that he does the most for humanity, and the most for himself in world estimation.

This truth is made very clear in his provision of an unlimited fund for the aid of all maimed and crippled children in this country. Not one of such afflicted little ones is to be left out of the pale of this great generosity if wanting to partake of it. Everyone applying will have opportunity to be cured. This movement is the fruit of experience. In making the announcement at Wellsley, Rev. Samuel S. Marquess, head of the Ford educational department, with headquarters at that place, said that a fund originally had been created for the benefit of such children in the families of employes of the Ford industrial concerns. The results of that work have been so great and gratifying, he says, that now an unlimited fund is to be provided for the benefit of children everywhere in the United States who need such treatment, and have not the means to pay for it. Such a fund, it can be seen at a glance, must need to be a great one. To make it a continuing one, profits of the Ford Motor Company are to be made one of the sources, if not the only source, of its revenues. The maintenance of hospital staffs, the costs of transportation and subsistence, materials and supplies, and those of organizing a means of preventing the impositions of unscrupulous impostors, will make a grand total which will far exceed the cost of the wild-goose flight to Europe. But the results will be sure. That fact has been demonstrated in advance. The philanthropist knows, in this one of his benefactions, that he is on the right line and can go ahead. He is showing mercy to the helpless who need it most. It is a great good he has now ordained, and one to win the applause rather than the laughter of the world.—*St. Louis Globe-Democrat*.

EDUCATIONAL MENUS

The medical profession has been described as being the only altruistic one in the world, that is, it is constantly endeavoring to deprive itself of its means of livelihood. When preventive medicine has achieved its final victory, the family physician can take in his shingle and bring up his children to be wireless operators or aviators. We are of course a long way from this millenium, but there is no doubt that the public is becoming better educated in health matters. Such terms as bacillus, salvarsan, and the calorie are mentioned in the best society now. For centuries mankind has dimly realized that the average individual eats too much and many aphorisms have gathered about the subject, as "Man lives on one third of what he eats, the doctor lives on the other two thirds," and "Leave the table always feeling that you could have eaten more." It is only comparatively recently, however, that the exact requirements of the human machine has been estimated with an arbitrary unit, the calorie, as a standard. The next step will be the familiarization of the lay public with the caloric value of various foods. A move in this direction has already been taken by the Public Health Department of New York City which furnishes educational menus to its employes at its lunch room at headquarters. The menu cards are ruled vertically into five parts containing respectively the name of the food, its price, the quantity in a single order, the number of calories, and the protein content. Thus we have a glass of milk:

four cents, seven ounces, 160 calories, seven grams of protein. Apple pie, five cents, one-sixth of a pie, 300 calories, four grams of protein. To be sure, it would seem better to use the metric system all the way through if it is to be used at all, but this is of small moment. The important fact is that these employees can eat intelligently (if they wish to do so), something of which Americans are notoriously incapable, according to the Continental belief. When this custom is extended to private dinner parties we shall begin to realize its full benefit as an aid to conversation, as well as its possibilities as a guide to correct methods of living.—*Medical Record*.

CORRESPONDENCE

DID NOT JOIN

CHICAGO, Sept. 13, 1916.

To the Editor: I received your "marked copy" of THE JOURNAL, and would say that I do not know anything about the accusation which you are making regarding fee-splitting association.

I received an invitation to St. Louis to read a paper this fall. The party inviting me was a physician and surgeon. I also received a blank to fill out in order to become a member of that society. However, I neglected to do so, not knowing anything about them.

Yours truly,

CARL B. WAGNER, M.D.,
31 N. State Street, Room 1308.

REPUDIATES FEE SPLITTING

FINDLAY, OHIO, Sept. 14, 1916.

To the Editor: Several months ago I received a personal letter from Dr. Emory Lanphear of St. Louis, who stated that "there was being organized the Medical Society of the United States," and asked me to become a member and write a paper for their meeting. As there was no explanation of the object of the society, being a joiner, I joined, and sent the one dollar for a membership.

I supposed the society was to be, only on a more comprehensive scale, similar to the Mississippi Valley Medical Association. There was nothing in the literature that I received to indicate that I was joining a band of fee-splitters, for that is something I never practice, do not believe in, and do not wish to be considered as advocating such principles. If that is the object of their society I certainly repudiate the whole thing, because I believe in medical organization and shall always stand for what it represents.

Fraternally yours,

J. C. TRITCH.

WILL NOT TAKE PART

CHICAGO, Sept. 19, 1916.

To the Editor: When I was asked to read a paper in St. Louis in October, before the new medical society that convened at that time and place, I was not aware that the fundamental object of their society was the promotion of the division of a surgical fee. Had such been distinctly stated to me, I would have immediately declined to present the paper, for I am strongly opposed to what I consider an unjust and unethical procedure.

The publication of the preliminary program of the society in various journals, together with an explicit statement of the objects and purposes of the organization, clears up the matter.

I will most emphatically not take part in such a program and my name was not, with my consent, placed in such a connection. I will ask you, therefore, to kindly give the same publicity to the statement I now make that you have given to the previous announcement.

Very truly yours,

W. A. NEWMAN DORLAND.

OPENED DR. KANE'S EYES

KANE, PA., Sept. 16, 1916.

To the Editor: Your marked copy for September opened my eyes to the ingenious trap laid for me. I inclose a copy of my letter to Dr. Lanphear.

I am one of the oldest and most loyal members of the American Medical Association, also pledged, as a Fellow of our American College of Surgeons, to fight fee splitting. I wish you would set me straight in your columns, and oblige.

Yours truly,

(Signed) EVAN O'NEILL KANE.

The letter to Dr. Lanphear follows:

KANE, Pa., Sept. 16, 1916.

Emory Lanphear, M.D., St. Louis, Mo.

Dear Sir: I have just learned from an editorial in the September number of the Missouri State Medical Association's Journal that the "Medical Society of the United States," into which organization you solicited my membership, has for a principal object organized fee splitting. I am radically opposed to this contemptible practice, which I emphatically condemn in any and all the methods by which it is conducted. I am a Fellow of the American College of Surgeons, which is making every effort to stamp out this corrupt custom, and am pledged to do my part in the good work.

I demand the immediate withdrawal of my name from membership in your society, and its removal from the program of your coming meeting.

Yours truly,

(Signed) EVAN O'NEILL KANE.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL, 1916

(UNDER THIS HEAD WE LIST THE SOCIETIES WHICH
HAVE PAID THE STATE ASSESSMENT FOR
ALL THEIR MEMBERS)

Webster County Medical Society, Dec. 15, 1915.
Benton County Medical Society, Dec. 16, 1915.
Cape Girardeau County Medical Society, Dec. 19, 1915.
Schuyler County Medical Society, Dec. 22, 1915.
Atchison County Medical Society, Dec. 27, 1915.
Clark County Medical Society, Jan. 1, 1916.
Madison County Medical Society, Jan. 10, 1916.
Clinton County Medical Society, Jan. 11, 1916.
Sullivan County Medical Society, Jan. 17, 1916.
Phelps County Medical Society, Jan. 17, 1916.
Camden County Medical Society, Jan. 18, 1916.
Dent County Medical Society, Jan. 31, 1916.
Barton County Medical Society, Feb. 3, 1916.
Moniteau County Medical Society, Feb. 7, 1916.
Henry County Medical Society, Feb. 21, 1916.
Putnam County Medical Society, Feb. 24, 1916.
Pulaski County Medical Society, Feb. 28, 1916.
Vernon County Medical Society, Mar. 3, 1916.
Ste. Genevieve County Medical Society, Mar. 15, 1916.
Cooper County Medical Society, Mar. 30, 1916.
Montgomery County Medical Society, April 4, 1916.
Ralls County Medical Society, April 6, 1916.
Livingston County Medical Society, April 12, 1916.
Macon County Medical Society, April 14, 1916.
DeKalb County Medical Society, April 17, 1916.
Wright County Medical Society, April 25, 1916.
Carter-Shannon County Medical Society, April 26, 1916.
Greene County Medical Society, April 28, 1916.
Iron County Medical Society, April 28, 1916.
Platte County Medical Society, April 28, 1916.
Grundy County Medical Society, May 3, 1916.
Adair County Medical Society, May 5, 1916.
Lafayette County Medical Society, May 5, 1916.
Cass County Medical Society, May 15, 1916.
Johnson County Medical Society, May 20, 1916.
Ray County Medical Society, May 29, 1916.

WASHINGTON UNIVERSITY MEDICAL SOCIETY

Thirty-Second Meeting—May 15, 1916

1. EXHIBITION OF CASES.

(A.) A CASE OF SPECIFIC MYELITIS WITH FOCAL SYMPTOMS.—By DR. EDWIN P. LEHMAN.

Patient entered the hospital in November with a spastic paraplegia, very marked sensory changes, limited above by about the eighth to tenth dorsal segments. He also had a high grade cystitis from an overflow bladder with low kidney function, and a decubitus ulcer over the sacrum. Wassermann on blood and spinal fluid were both four plus. Spinal fluid showed 40 cells and positive Noguchi.

Treatment was instituted for the cystitis and the patient was also placed on mixed treatment. This was continued for twelve days when uremia threat-

ened and the mixed treatment was discontinued. Kidney function at this time showed almost complete retention of phthalein. Large quantities of salt solution under the skin, and caffeine were employed. The kidney condition began to clear up and by January 1 patient's general condition was much improved. It then seemed wise to explore the cord on account of definitely focal signs.

Exploration by Dr. Sachs showed adhesions between the dura and pia; pia filled with cholesterolin deposits, grayish spots in the dorsal columns, cord contracted and pale without normal blood-vessels. Before closure the subpial space was filled with a dilute bichlorid solution. Following operation there was subjective improvement in sensory changes but no objective improvement could be demonstrated. Wassermann on spinal fluid became negative and the cell count was reduced to five.

The treatment suggested by Byrnes, namely the direct application of mercury to the spinal column through injections of mercurialized serum, was then instituted. In the intervening time up to today the patient has received six injections; three of $\frac{1}{50}$ grain bichlorid and the others $\frac{1}{25}$ grain. He also received 0.6 gm. of American salvarsan intravenously.

The patient's present condition shows almost complete recovery of sensation. There is moderate motor improvement and the patient is now able to move toes slightly and also to flex the legs at the hips. Rectal control has returned somewhat and also bladder control. There is no return of sexual power. The patient has not been catheterized for the past week and today there were 250 c.c. of residual urine. Last examination of spinal fluid showed a 2+ Wassermann, with a cell count of 20.

It is interesting to note throughout that the patient's kidney function ran quite parallel with the bladder retention. Complete emptying of the bladder by retained catheter was often sufficient to improve the phthalein output in a few days.

We cannot say as to whether the undoubted improvement has been due to the mercurialized serum, the filling of the canal with bichlorid, or the salvarsan. The single dose of salvarsan, however, was probably not greatly responsible as the improvement had begun before it was administered.

The other two methods are alike in respect that they both are the direct application of mercury to the cord and meninges.

DISCUSSION

DR. E. SACHS: Dr. Lehman has brought out all the important points. One point that he made I think it is well to reemphasize, and that is the belief, now practically universal as he mentioned, that every focal lesion of the cord should be explored even if there is a positive Wassermann. There have been a number of cases on record where there has been a positive Wassermann and besides that a new growth has existed. We did not believe there was a new growth here; we thought there might be a localized gumma, and it has been repeatedly shown that a gumma of long standing will not respond to specific treatment, so that it seems surely justified to explore such a cord. The operative procedure is attended practically with no risk.

It is also interesting to note that the Wassermann here in the spinal fluid has become positive, whereas at one time it was negative. At a recent meeting it was brought out that there were cases in which even after very prolonged specific treatment the Wassermann might still remain positive and no matter how much mercury or salvarsan was administered it in no way influenced the Wassermann. The point was there made, which seems rather a good one, that in a specific case if the Wassermann still remains

positive but the symptoms have disappeared, it is well to stop treatment. This man, of course, still has not regained his motor power and until that has been regained it is well to continue pretty energetic treatment.

B. TWO CASES OF LEUKEMIA.—A CASE OF LYMPHATIC LEUKEMIA.—By DR. DREW LUTEN.

CASE 1.—Patient, a man, 46, with large glands in neck, axillae and groins. Early in 1915 he injured his right heel and had a small, tender swelling in right groin which disappeared soon after the heel was well. Several months later his doctor noticed the glands in his neck, right side. Then followed, after several months, enlargement of inguinal and axillary glands.

In February, 1916, he had "grip" at which time the neck glands enlarged. He has been somewhat weak since then. He entered Barnes Hospital, May 8, 1916, for diagnosis. A gland was excised, May 11, 1916; pathologist's report "leukemic gland."

Blood count May 10, 1916: white blood cells, 34,800; lymphocytes, 75 per cent.; large mononuclears and transitionals, 9 per cent.; polymorphonuclears, 10 per cent.; myelocytes, 2.5 per cent.; red blood cells, 5,580,000; hemoglobin, 83 per cent.

Benzol treatment was started on May 10, 1916, and Roentgen-ray exposures on the 12th.

A CASE OF SPLENOMYELOGENOUS LEUKEMIA SHOWING MARKED IMPROVEMENT UNDER BENZOL AND ROENTGEN-RAY EXPOSURES

CASE 2.—The patient was shown in the Society, Oct. 10, 1915. A photograph taken Oct. 8, 1915, is exhibited, showing the markings of the splenic outline and the lip tumor.

A chart shows the changes in the blood under benzol and Roentgen-ray exposures, from Oct. 10, 1915, to Feb. 10, 1916, as follows:

Red blood cells, 2,500,000 to 4,900,000 (Jan. 10, 1916); white blood cells, 450,000 to 7,800; hemoglobin, 60 to 80 per cent.; myelocytes, 29 to 3.5 per cent.; polymorphonuclears, 55.5 to 70 per cent.; lymphocytes, 7 to 12 per cent. Temperature on admission 102.6; normal on Nov. 19, 1915.

Since leaving the hospital, Feb. 12, 1916, the patient has returned from time to time for observation. There has been a leucopenia, lowest white blood cells 2,700 on April 12, 1916.

Blood examination at present (May 15, 1916): red blood cells, 5,800,000; white blood cells, 4,500; hemoglobin, 75 per cent.; polymorphonuclears, 71.5 per cent.; lymphocytes, 22.5 per cent.; large mononuclears and transitionals, 3 per cent. The spleen cannot be felt.

DISCUSSION

DR. G. CANBY ROBINSON: This last case is a very unusual one. As regards recovery, of course one cannot say that it is a recovery in the true sense of the word, but it is certainly a striking remission. The leukocyte count was not only reduced to normal but became and has remained distinctly below normal, and the length of time that he is now in an aleukemic state is striking.

The first case is of interest from a number of points. The glandular enlargement is very extensive and the man's general condition is unusually good. He has no anemia and apparently has a very mild form of leukemia as far as we can tell.

DR. GEORGE DOCK: There are two or three points of interest in connection with these cases which might still be mentioned. It is very interesting to see the improvement in the red cells in the last case.

It must not be forgotten that the red cell as well as the white cell is involved in leukemia, the loss of red cells being a constant feature. An improvement in the red cells along with the great lowering of the white cell formation is an extremely suggestive point.

The case brings up another thing. We often see it stated, or hear it stated in discussions on the Roentgen-ray and benzol treatment of leukemia, that it is merely symptomatic and we could not expect a cure from it. I think that as long as we have no knowledge of the etiology or mechanism of leukemia it is quite as true to say that there is a chance of curing the case, and I think it is very much better in a therapeutic way to take that ground. I do not see how anybody can expect much from a patient who is told that the treatment is not likely to be of permanent value. I have always told such patients something like this: "We cannot be sure of the result of the treatment; theoretically you should get well. The possibility depends chiefly on how early the treatment is begun." We cannot tell how early the disease has been taken because we can rarely determine that. But there is the same reason for treatment that there is in any chronic disease, as exists we might say for the surgical treatment of carcinoma. It would be just as wrong to give a pessimistic opinion to a woman with carcinoma of the mamma as it is in leukemia.

The first case is interesting from a number of points, too. In the first place, the relation of the previous disease in the lymphatic glands, and then the coincidence, if you call it so, of the injury. These are two very interesting things because we find them rather frequently in leukemia. Another interesting feature is the diagnosis. The man, of course, superficially looks like a case of Hodgkin's disease. Many such cases in the past have been described as Hodgkin's disease. In regard to the statement that 30,000 leukocytes were not high enough to make the differentiation between leukemic and nonleukemic disease, now that we see nonleukemic diseases (sepsis for instance) with leukocyte counts of 30,000, 40,000, 50,000, 60,000, up to even 150,000 leukocytes to the cubic millimeter, one must realize that no sharp line can be drawn between leukemic and nonleukemic disease as regards number of leukocytes alone. The differential count, the minute features of the count, are the important things and the study of this case will show how one can make out that the patient has a lymphatic disease in which, unless some other cause for it can be found, the diagnosis of leukemia should be made. I think that in all such cases the histological diagnosis should be made, too, by removing some of the glands, because I do not believe myself that the picture of Hodgkin's disease in the blood has as yet been established, and I would not be surprised if some cases had features something like this.

One very important point brought up by the two cases was this: that there is an extremely great difference in the results of treatment. All Roentgen-ray cases like the first, with large lymphatic masses in the glands, are very easily made toxic. Even ordinary exposures of Roentgen rays will throw them into fatal toxic conditions from which they rapidly die. One of the first cases I had treated was a case very similar to this, a woman with 30,000 leukocytes too, but with larger masses; just as the woman's blood reached normal, histologically and numerically, and everything seemed to be going along beautifully, and just as in a case of myelogenous leukemia the patient could be sure of getting some weeks of normal condition, the woman suddenly went into marked toxic condition with very high temperature and very rapidly died.

C. DIVERTICULA OF THE DUODENUM; TWO CASES.—By DR. HOWARD H. BELL.

Diverticula have been observed in all divisions of the gastro-intestinal tract. I have collected two specimens of diverticula of the duodenum. The first specimen occurred in a man 42 years of age. The patient gave no record that this diverticulum had given him any trouble.

The diverticulum occurs immediately above and anterior to the major papilla. It extends to the left and slightly upward anterior to the common bile and pancreatic ducts. The sac is formed by thinned intestinal wall which appears to represent mucosa and submucosa protruding through the muscular coats.

The second specimen occurs in a man 61 years of age. Here again no symptoms referable to the diverticulum were recorded. The first diverticulum occurs at the site of the site of the ampulla of Vater and extends to the left and slightly upward in front of the common bile and pancreatic ducts which empty into the wall of the diverticulum in conjunction.

The second diverticulum occurs in the inferior part of the duodenum posteriorly. In each instance the sac is formed by thinned intestinal wall which appears to represent mucosa and submucosa protruding through the muscularis.

Baldwin collected sixty-seven instances of duodenal diverticula from the literature and classified their frequency at the different levels. To his collection I have added the more recently reported cases with the following result:

Near pylorus	5
At minor papilla.....	10
Near major papilla.....	13
At major papilla.....	36
In third part.....	14

Intestinal diverticula have been studied by Lewis and Thyng in pig, rabbit and human embryos. These investigators observed along the gastro-intestinal tract hemispherical budding resembling the diverticula giving rise to the pancreas. It is thought by these investigators that these diverticula are the probable source of aberrant pancreas.

Keith discusses the pathogenesis of duodenal diverticula. He concludes that since diverticula occur at definitely weakened places in the intestinal wall it is safe to call these pressure diverticula. However, there is a certain number that develop in embryonal life and probably have their origin in the knob-like budding described by Lewis and Thyng. Furthermore, he explains how viceroptosis may cause traction on the common bile duct with the development of a tent-like diverticulum at the site of the ampulla.

In a number of instances aberrant pancreas has been associated with intestinal diverticula. Aberrant pancreas is more often situated in the muscularis breaking it up into small bands and in part replacing it.

Roth attributed an instance of duodenal diverticula observed by him to fatty degeneration of the musculature. Aschoff states that fat deposit or abscess in the intestinal wall may weaken the intestinal musculature leading to the development of diverticula.

Hansemann, Jackson and others observed large vessels in the walls of intestinal diverticula. Hansemann distended the intestine of a cadaver and observed that diverticula occurred, particularly where the veins pierced the musculature.

CONCLUSIONS

There is considerable evidence to support the view that diverticula of the duodenum may be acquired, developing at definitely weakened places in the musculature brought about by the passage of ducts or blood vessels through the intestinal wall, by the pres-

ence of aberrant pancreas in the muscularis or by pathological processes.

Peristalsis is a potent factor toward producing and increasing the size of diverticula.

The knob-like diverticula of the intestinal tract described by Lewis and Thyng are microscopic in size, and diverticula of an intermediate character between these and the diverticula that occur in adults have not been observed. Diverticulum in association with aberrant pancreas is not comparable with the diverticula giving rise to the normal pancreas. The primary budding which gives rise to the aberrant pancreas is microscopic in size; the developing pancreas in the muscularis weakened the intestinal wall to such an extent that a diverticulum develops at that site. Consequently the duct of aberrant pancreas may at times be found to empty into associated diverticula.

Ptois of the pancreas and duodenum is clearly shown by Keith to be a probable cause of duodenal diverticula.

DISCUSSION

DR. E. L. OPIE: Instances of acute inflammation of diverticula of the large intestine producing symptoms somewhat similar to those of acute appendicitis have been observed. There is one instance of diverticulitis of the duodenum reported by Bassett. There was an acute inflammation of the mucosa, a duodenal diverticulum and hemorrhagic pancreatitis limited to the domain of the accessory pancreatic duct which emptied into this diverticulum.

DR. R. J. TERRY: The observation has been made by Theobald Smith of the occurrence of diverticula in the intestine of pigs at birth, and these diverticula, which are visible to the naked eye are, as a rule, infected. I have seen them myself and recall that they were punch-like and contained a quantity of detritus. Their position and the structure of their walls suggested somewhat, lymphoid bodies.

2. A STATISTICAL STUDY OF 250 ABORTIONS.

—By DR. R. M. SPIVY.

Outside of the report of Titus (Johns Hopkins Hospital), no careful statistical study of abortion exists in American literature. The 250 cases analyzed by Spivy cover a period of eighteen months' service at the City Hospital.

Over one-third of the 250 women had had previous abortions. Full term pregnancies were less frequent in this group, the ratio of pregnancies to abortions being 1 to 1.04. Four-fifths of the women were married but in the unmarried the proportion of abortions was greater.

The second and third lunar months were found to include about 60 per cent. of all abortions, and the writer could confirm Titus' analysis of menstrual waves occurring at four, eight, twelve and sixteen weeks from the onset of pregnancy, at which time abortion was more likely to occur.

Special interest attaches to the large per cent. of confessedly criminal abortions—eighty-four patients, or 33 per cent. Of this number sixty-two were self induced and in only ten instances did the patient acknowledge the assistance of a physician or a midwife. In fifty-two women some instrument had been used to bring on the abortion, the most popular being slippery elm stick twenty times, catheter ten times, hairpin three times. Fourteen of the women died—26.9 per cent.

Bleeding was the most common symptom in the 250 abortions, occurring in 87.2 per cent. Only forty-two out of the 250 women were entirely free from fever during their stay at the hospital.

The analysis of the stage of abortion showed threatened abortion 20, incomplete abortion 131, complete abortion 87, uncertain 12. Conservative treat-

ment was employed in 120 women with a mortality of 11.6 per cent., and operative treatment in 120 women with a mortality of 6.17 per cent. This apparent advantage in operative treatment is however considerably reduced when we eliminate the complicated septic cases. In 222 uncomplicated abortions the mortality in the operative and conservative groups was practically identical, the former showing four deaths out of 118 and the latter four out of 104. The dull curet was employed four times as often as the digital removal with no case of perforation from its use at the hospital. A small group, twenty-one cases, were operated on successfully after the use of intra-cervical injections of novocain.

The twenty-eight complicated septic cases showed a mortality of 50 per cent. with a prolonged convalescence in those cases that recovered.

A comparison of the negro and white cases show that while the ratio of pregnancies to abortions was about the same in both groups, the percentage of criminal abortions among the negroes was strikingly small, only two out of thirty-three colored women (6 per cent.), as compared with eighty-two out of 217 white women (38 per cent.). This corresponds in the main to Titus' figures.

Eliminating from this study the fifty-three cases of confessedly instrumental criminal abortions with their mortality of 26.9 per cent. we find the remaining 198 women with a mortality of only 4 per cent.

This serves to emphasize the serious danger attendant on instrumental procedures employed by the lower classes for the interruption of pregnancy.

DISCUSSION

DR. FRED. J. TAUSSIG: The work has been carried out in great detail by Dr. Spivy. It is rather unusual to have so large a collection of professedly criminal cases for study as we have here, and I do not believe that even Titus itemized as carefully as this the manner in which the abortion was produced.

When we consider the number of women who lose their lives through such criminal procedures it is rather noteworthy that at the present time there are hardly more than one or two midwives or physicians serving sentence for this crime. If you inquire at the coroner's office you will find that in the cases that come to him the evidence may be absolutely certain of a criminal procedure and yet the jury will accept the twisted argument of the man for the defense and bring in either a hung jury or a verdict of not guilty. It is absolutely impossible to make headway in the punishment of criminal procedures of this sort until public sentiment is aroused to the realization of the importance of preserving life intra-uterine. Perhaps the most noteworthy step in this direction is the effort, made largely through the anatomists at this time, to insist on the registration of abortions. I think it was the state of Maryland that first enforced or interpreted the law by which "stillborn children" included all products of conception. When that law is universally enforced throughout this country we shall have not only a greatly increased material for the study of the causes of abortion but also a whip to control the present rapidly increasing tendency to criminal procedures.

DR. G. D. ROYSTON: I think we cannot altogether accept the causes that are given for these abortions. In the analysis of the causes of abortions there is no mention of the local causes that might bring this about, such as displacement, pelvic tumors, and things of that sort; while these are the causes that are commonly given by patients we do not always believe them. Personally, I believe that almost none of those causes really produce abortions. Even the supposedly, the professedly criminal abortion cases give positive Wassermanns in a surprisingly large num-

ber of cases in the dispensary. Nearly one-half of abortions in the latter half of pregnancy give positive Wassermanns, and among those positive Wassermanns there are a number who are professedly criminal. Then a very large percentage—I should say 20 per cent.—of the cases show some deficient renal function. So these factors must be taken into consideration in reckoning the causes of abortion.

3. HYPERTROPHIC CHONDRODYSPLASIA IN ADOLESCENCE.—By Drs. NATHANIEL ALLISON AND E. L. OPIE.

Abnormal formation of bone at the ends of the long bones involving the epiphyses and the adjacent part of the shaft in a boy 17 years of age has brought about great enlargement of the ends of these bones. This enlargement affecting the epiphyses was first observed at the age of 3 months, at a time when the epiphyses were in large part cartilaginous. There has been no retardation of the growth of the long bones but there is some retraction of the root of the nose. Roentgen-ray examination shows that the epiphyseal cartilages of the long bones, with few exceptions, (for example, at the upper ends of the ulna and radius), are not united to the shaft. The longitudinal growth of the bones as indicated by measurements show considerable deviation from normal, the trunk being very short and the limbs relatively long. Microscopical examination of the articular and epiphyseal cartilages of the femur demonstrate the occurrence of endochondral bone formation both on the under surface of the articular cartilage and on the diaphyseal side of the epiphyseal cartilage. Striation of the matrix of the cartilage and changes in the cartilage cells furnish further evidence that the cartilage has developed abnormally. The cartilage cells near the site of ossification have not assumed the normal arrangement in long rows perpendicular to the line of ossification but occur in irregular groups or in short rows of from three to six members. There appears to be a tendency for the cartilage to proliferate laterally as well as longitudinally. The histological changes are similar to those described in association with chondrodystrophia of infants.

4. SOME RESULTS OF A STUDY OF THE MAMMALIAN CHONDROCRANIUM.—By DR. R. J. TERRY.

The domestic cat was chosen as material for the study of the mammalian chondrocranium. In embryos of 23.1 to 28 mm. the chondrocranium has reached its most complete form. At this stage most of the membrane bones have appeared and one endochondral ossification, namely, that for the medial lamella of the pterygoid process can be seen. The development of the occipital region agrees closely with that of the atlas and is composed of one complete segment and two or three less fully developed segments. The observations and conclusions reached regarding the formation of the occipital region support the views of Weiss. The otic capsule rises independently of the rest of the cranium, being represented first by chondrification on the lateral sides of the semicircular ducts. The pars cochlearis develops in connection with the pars canalicularis and also with the cartilage of the base of the skull. The internal acoustic meatus is formed very early and follows chiefly from the development of the suprafacial commissure. The latter forms the roof of the primary facial canal leading to the outside of the skull at the level of the future hiatus facialis. In the tympanic region the facial nerve runs in an open groove of the medial tympanic wall instead of in a closed canal as in man. Fawcett's observations of a sepa-

rate center in the formation of the dorsum sellae in man is supported by Fischer and Voit for apes and rabbits. The extra center was also observed in the cat. The gasserian ganglion is located outside of the chondrocranium and is separated from the cranial cavity by a limiting membrane in the plane of the chondrocranial wall. This region has been called by Gaupp the epipteric cave. The development of the osseous cranium makes the epipteric cave an intracranial region, namely, the middle cranial fossa. The nasal skeleton is developed from the median cartilaginous septum nasi which expands dorsally into the roof cartilages and from two pairs of independent plates which form the walls of the air sinuses and the ethmo-turbinal processes respectively. Jacobson's cartilages develop independently and lie in a region below the proper nasal skeleton which receives the tear ducts and communicates ventrally with the mouth by Stenson's duct.

5. AN ETIOLOGICAL STUDY OF A SERIES OF EPILEPTICS.—By Drs. L. B. ALFORD AND S. I. SCHWAB.

These cases of epilepsy—133 in number—were collected for a preliminary survey in order (1) to consider the efficiency of our methods of examination and (2) to get a general idea of the types of cases that come to us.

A systematic and detailed examination of cases is necessary if future statistical inquiry, an intensive study of specific problems, or a study of methods of therapy, are to be of any value. We believe a hospital and dispensary material, such as ours, is especially valuable for study as compared with institutional cases because (1) it probably represents more accurately the general run of epileptic cases; (2) cases are seen in initial stages of the disease, when more accurate histories are possible, and (3) there is easy access to hospital facilities and specialistic consultation. Some disadvantages are (1) dispensary inefficiency and (2) lack of time. Both of these factors may be in part overcome, the former by a "follow up" system and by careful treatment of each case, and the latter by a routine under the supervision of one person.

These 133 cases are unselected dispensary material, about 37 per cent. of whom received treatment either in Barnes Hospital or in the St. Louis Children's Hospital. The proportion to the general clinic population is about as 1 to 200 and to the nervous material as 1 to 8. The material is classified as follows:

	Definite	Doubtful	
Without demonstrable etiology			29 cases
With definite or doubtful etiology			
Trauma	21	2	
Brain lesion (as evidenced by reflex changes, muscular weakness, etc.)...	21	6	
Brain lesion (evidenced by focal type of disease)...	6	3	
Infectious disease	5	1	
Labor	4		
Skull changes	2		
Cerebellar lesion	1		
Lues	2	1	
Convulsions in relatives....	2 (direct)	11 (collateral)	
Alcohol	5	2	
Intoxication (paregoric—salvarsan)	2		
Fright	3		
Cardio-vascular-renal disease	3		
Intestinal anomaly (dilated colon)	1		
	78	26	29

(24 cases were thrown out because of insufficient data.)

It is seen that a large proportion of the cases are organic, and we believe a careful study will increase the number. In only two of the fifty-nine cases in which Roentgen-ray pictures were made were skull changes definitely found. Stereoscopic pictures seem to be necessary to eliminate skull changes. In only three cases was there a possible luetic factor; and in one of these the Wassermann test was reported as 1+, or doubtful. We believe, in view of the limitations of the Wassermann test and Roentgen-ray examination in dispensary practice, that emphasis should be laid on the history and physical examination and that these should be under the supervision of one person."

DISCUSSION

DR. S. I. SCHWAB: It occurred to us, as it no doubt has occurred to most neurologists, to end their lives with possibly some contribution to the subject of epilepsy. The first thing to do, therefore, was to make a survey of the clinical field, and this paper is the result of that first survey.

In the course of this work, entirely apart from the subject under consideration, it is apparent that the best test of the efficiency of any clinic is to take up some subject for investigation. By doing this the weakness of the clinic from the standpoint of efficient work becomes very apparent. I should say the most valuable thing Dr. Alford and I have gotten out of this work is the actual demonstration of how feeble our efforts have been in the study and consideration of epilepsy.

There are a number of things that are worth mentioning concerning this series although, as you see, it is rather small and permits of no conclusion whatever. The first matter that is unusual is the very high percentage of cases in the whole series in which definite causes were found which could be connected in some way with the epilepsy. The fact that these factors were present, even though some of the findings may be questionable, suggests that the problem of the etiology of epilepsy is to be determined not by considering it some mysterious disease labeled "idiopathic," but it is a disease like anything else which has a definite cause or causes, and the more we work at a succession of series the larger I am sure, will be the percentage of findings of a positive kind, and the less frequent will become the number of cases in which no findings are present.

The next remarkable thing was the low percentage of positive Wassermans. Contrary to almost all the published records, our percentage is considerably less than 1 per cent. Dr. Alford and I do not agree, although we are very enthusiastic collaborators on this paper, on the uselessness of a Wassermann. I feel that if we had not made the Wassermann we would not have known this very important fact and by continually making Wassermans we shall probably discover some very interesting facts. The difficulty, however, of getting a number of Wassermans promptly on a series of this kind is another evidence of the inefficiency of the neurological clinic. These things have got to be done and have got to be done promptly and as many of them ought to be done as necessary. We have some difficulty, as every clinic would, in getting a sufficient number of these reported.

The subject of heredity is also of extreme value. We have been traditionally led to believe that the most important etiologic factor in epilepsy is heredity. When we begin to study inheritance and epilepsy from the standpoint of the newer inheritance studies, we find that every single statistical compilation of that sort has to be thrown out bodily because the question of heredity and epilepsy is not studied by the methods which Charles Benedict Davenport and his school

have made the standard, and unless you are willing to organize a field service in connection with your clinic, with experts, statistical gatherers, etc., your heredity factors must be thrown out. This was another very valuable thing that we learned from the standpoint of the clinical efficiency. We hope to continue this work for another year and perhaps in a year or two from now we shall have something else to report.

DR. E. SACHS: In regard to getting a large number of negative Wassermanns I should like to ask Dr. Alford whether those were all blood Wassermanns. I should think before we would be justified in saying that there were such a large number of negative ones the spinal fluids ought all to be investigated.

Another interesting point and one I would like to have cleared up, is whether the large group of cases in whom the etiology is said to be trauma, is based merely on the statements of the patients. I think that is a rather doubtful basis, because in epilepsy, as in a great many other conditions, but more in epilepsy than almost any other condition, patients are inclined to blame a trauma for the onset of their illness. It is very interesting that there should be such a large group, but I should think it might be misleading.

CALLAWAY COUNTY MEDICAL SOCIETY

The Callaway County Medical Society met at the Public Library in Fulton, September 14, at 2 p. m., the president, Dr. A. J. Courshon, in the chair. The following members were present: Drs. A. J. Courshon, R. N. Crews, E. L. Spence, H. S. Major, G. D. McCall, Martin Yates, and H. I. Owen. Visitors, Drs. A. W. McAlester, Columbia; Councilor A. R. McComas, Sturgeon, and E. L. Hume, New Bloomfield.

Dr. Spence, of State Hospital No. 1, read a valuable paper on "The Relation of the Laboratory to the Practice of Medicine," emphasizing the value of scientific laboratory work as an aid in medical and surgical diagnosis. A free discussion followed, participated in by all the members and visitors present.

Dr. E. L. Hume, of New Bloomfield, read an interesting paper on "Puerperal Eclampsia and How I Have Treated It." This paper provoked a general discussion. Most of the members endorsed the essayist's view as to the great value of *veratrum viride* in this disease.

There being no other scientific papers, adjournment was taken until the October meeting.

MARTIN YATES, M.D., Secretary.

CAPE GIRARDEAU COUNTY MEDICAL SOCIETY

Cape Girardeau County Medical Society held its regular meeting September 11, at Commercial Club Room, Cape Girardeau, with the president, Dr. G. B. Schulz, in the chair and the following members present: Drs. F. R. Atkins, H. L. Cunningham, R. T. Henderson, D. H. Hope, William N. Howard, D. G. Seibert, William K. Statler, G. W. Vinyard, R. F. Wichterich and William E. Yount. Visitor, Dr. Smith. In the temporary absence of the secretary, Dr. Yount acted.

One of the members reported that a life insurance company was cutting its fee for examination from \$5 to \$3, and that the company was trying to get members to do this work. He cautioned the men to be honorable and uphold the schedule.

On motion the courtesies of the Society were extended to Dr. Smith.

The program consisted of a Symposium on Sinusitis: Symptoms and pathology, by Dr. William E. Yount; diagnosis and treatment, by Dr. H. L. Cunningham. Both papers were well prepared and a splendid discussion followed.

Dr. Schulz reported a case of rupture of the gall-bladder which had been treated for abscess of the liver. He gave a history of gall-stones and two were removed at operation and seven more since then. The patient was operated on two weeks ago and is doing well.

E. H. G. WILSON, M.D., Secretary.

FRANKLIN COUNTY MEDICAL SOCIETY

The Franklin County Medical Society met in regular session in Union, Aug. 25, 1916. The meeting was called to order by temporary chairman, Dr. C. F. Briegleb, in the absence of the president and the vice president. Members present: Drs. E. A. Stierberger, John Isbell, I. M. Owens, O. L. Muench, O. N. Schudde, C. F. Briegleb, A. L. McNay, E. M. Lucke and H. A. May. Visitors: Drs. E. J. Goodwin, Secretary Missouri State Medical Association; A. H. Hamel, Councilor Twentieth District; R. M. Funkhouser and George Ives, all of St. Louis; Dr. John D. Seba, Bland, and Dr. Denny, St. Clair. The minutes of the meeting of May 18, were read and approved.

The resolution opposing Senate Joint Resolution No. 120 was read and adopted, and ordered spread on the minutes of the Society, and the committee directed to offer said resolution to the state journal for publication.

The request of Dr. D. A. Seibert, Washington, that his application for membership be reconsidered at this meeting was refused for the reason that our constitution and by-laws do not permit of reconsideration of any application and also because the application was not in proper form.

The report from the Judicial Council was read and on motion the report was ordered filed.

It was moved and carried that a committee be appointed to consult an attorney with the object of prosecuting illegal practitioners of medicine and doctors practicing without a license. The president appointed the following members on this committee: Dr. O. L. Muench, Washington; Dr. A. L. McNay, Pacific, and Dr. O. N. Schudde, Sullivan. The committee is requested to report at the next meeting.

A motion was made and carried to refund to Dr. H. A. May the expenses of his trip to the meeting of the Missouri State Medical Association at Excelsior Springs, May 8, 1916.

Dr. C. F. Briegleb read a paper on "Everyday Use of Bacterins." This was a very able paper, highly interesting and instructive and held the attention of all present during its reading. The paper was discussed by Drs. Ives, McNay, Hamel, Seba, Funkhouser and Schudde.

The paper by Dr. Owens was also instructive and interesting and was enjoyed by all. The doctor recommends the use of *ichthyol* in pertussis, bronchitis, etc., and has had much success in the management of these diseases by the use of its agent. The paper was freely commented on by all present.

At the evening session which was held in conjunction with the county school board convention, two very valuable addresses were delivered, one, "The Relation of Bacteria to Disease," by Dr. George Ives of St. Louis; the other, "The Present Status of Cancer," by Dr. R. M. Funkhouser of St. Louis. The writer of the minutes of this meeting freely confesses his inability to comment on these papers in a manner that is justly due them, and will be content to thank the gentlemen on behalf of the Society.

for their visit and lectures, and hope that they may come again at some future meeting.

Union was selected as the place and November 1, the date of the next regular meeting.

H. A. MAY, M.D., Secretary.

GREENE COUNTY MEDICAL SOCIETY

The semi-monthly meeting of the Greene County Medical Society was held in the Physicians Club Rooms, Friday, September 8, Dr. Russell presiding and forty members in attendance. This was the first meeting following the summer vacation.

The Society had as its guest and essayist, Dr. R. B. H. Gradwohl of St. Louis, who read an excellent paper on "Microchemical Analysis of Blood as an Aid in the Diagnosis of Nephritis and Diabetes." This paper was illustrated with charts and case records which made the subject much clearer. In addition to this report of blood analysis in diabetes and nephritis he had compiled a chart showing the blood analysis in five cases of thermic fever which had come under his observation recently. These reports showed that so long as the creatinin remained below 5 per cent. a favorable prognosis could be given, but if the creatinin was above 5 per cent. an unfavorable prognosis should be given notwithstanding other symptoms may not indicate a serious condition. This paper was a very interesting one and won for the essayist the appreciation of the entire Society.

At the close of the discussion Dr. Gradwohl was given a rising vote of thanks for his address and was unanimously elected honorary member of the Greene County Medical Society. He has a standing invitation to visit the Society any time he wishes.

T. O. KLINGNER, M.D., Secretary.

LACLEDE COUNTY MEDICAL SOCIETY

The Laclede County Medical Society met at the Laclede Hotel on the afternoon of August 15, the president, Dr. T. U. Gourley of Phillipsburg, presiding. There were present Drs. J. M. Billings, T. B. Herbert, J. B. Atchley, J. L. Benage, S. A. Casey and J. A. McComb of Lebanon; W. R. Summers of Nevada, with Dr. J. C. Scott of Fate, and Dr. John Green, Jr., of St. Louis, as visitors.

The afternoon was spent in an eye clinic held by Dr. Green. The examinations of the eyes and the discussions of the conditions led by Dr. Green, were interesting and helpful to all present. The physicians were very much pleased with the afternoon work and will be more than glad to have Dr. Green return to us at some time. The work of the country doctor demands that he know how to examine an eye—at least know his limitations. At this time, when there is a special effort being made by both philanthropists and the state to conserve eyesight and prevent blindness, it behooves the country practitioner to give more of his attention to diseases of the eye and conditions affecting the eye.

From the clinic we were taken with our wives to Bonnots Mill, twelve miles from Lebanon, and there enjoyed a fish dinner prepared especially for us. Whatever be the doctor's advice on fish diet the ones here present ate to their capacity regardless of any advice.

After dinner Dr. W. R. Summers, assistant physician of the State Hospital No. 2, at Nevada, read a paper on pellagra. He gave us the case histories of the patients at the hospital during the past two years. This paper got us out of the realm of the hackneyed and opened our eyes to the fact that we

were in the midst of pellagra, for one of the cases reported, came from Laclede County and had passed through the hands of two or three of our physicians without a suspicion of the real condition. Dr. Summers says arsenic is the only remedy so far used that seems to be of value, but that a diet of milk and eggs does relieve some cases.

The Society adjourned to meet the second Monday in September.

J. A. McComb, M.D., Secretary.

PEMISCOT COUNTY MEDICAL SOCIETY

Pemiscot County Medical Society held their annual outing in a grove on the Mississippi River bank one and one-half miles above Caruthersville. The meeting was called to order by the president, Dr. F. A. Mayes, who made the opening address and welcomed the visiting doctors.

Dr. A. R. Keifer of St. Louis, made an interesting talk on fellowship among doctors, and then Drs. Brown, Cone and Hammersley of Campbell, made speeches commending the doctors of the Pemiscot County Medical Society for their congeniality and good fellowship toward each other and the medical profession in general.

Dr. J. H. Timberman, Councilor for the Twenty-Third District of the State Association, made an address urging complete organization.

The Society adjourned for lunch which consisted of fried fish, barbecued chicken and all the adjuncts that go with them to make such a feast delectable. After lunch Hon. A. L. Oliver, U. S. District Attorney of St. Louis, made a talk on medical legislation.

The applications for membership of Drs. C. A. Wells of Decring, and Levi D. Denton of Braggadocio, were received and on ballot they were elected to membership.

The Society adjourned at 4 p. m., with the best of feeling prevailing.

J. W. JOHNSON, M.D., Secretary.

PIKE COUNTY MEDICAL SOCIETY

At the September meeting of the Pike County Medical Society, the committee appointed to draft resolutions on the death of Dr. J. W. Dreyfus, made the following report which was adopted:

WHEREAS, Our esteemed and worthy fellow practitioner, Dr. J. W. Dreyfus, after a long life of usefulness, has been called to his reward, and

WHEREAS, He was a faithful member of the Pike County Medical Society and loyal to his profession, a true friend and honored not only as a physician but as a citizen, and

WHEREAS, He has filled every office in the Pike County Medical Society and was faithful to every trust, being treasurer at the time of his death, therefore be it

Resolved, That the medical profession and the community at large of Pike County have suffered a severe loss in the demise of Dr. Dreyfus, and be it

Resolved, That the Pike County Medical Society has lost one of its most valued and highly respected members, and that as a profession we feel that we are better men for having known and associated with Dr. Dreyfus. Therefore, in token of the respect and esteem in which he was held by the members, the Pike County Medical Society extends to the family their sincere sympathy in their bereavement. Be it further

Resolved, That a copy of these resolutions be sent to the family of the deceased, the State Association Journal and a copy spread on the minutes of the Society.

T. GUY HETHERLIN, M.D.,

J. E. BANKHEAD, M.D.,

D. M. PEARSON, M.D.

The Committee.

POLK COUNTY MEDICAL SOCIETY

The Polk County Medical Society met at the Odd Fellows Hall, Bolivar, at 11 a. m., September 12, with the following members present: Drs. L. L. Hunt and John W. Coy, Fair Play; Drs. R. D. Dill and A. J. Stufflebam, Humansville; Dr. C. N. Hahn, Dunnegan; Dr. R. C. Nevins, Flemington; Drs. W. D. Drake, D. E. Hammontree and J. F. Roberts, Bolivar, and Dr. H. A. Lowe, Springfield.

Dr. W. D. Drake called the meeting to order. After the reading of the minutes of the previous meeting, Drs. John W. Coy and Thomas D. Wrinkle were elected members of the Society.

Dr. H. A. Lowe then read a very interesting paper on operations on the uterus, giving a photographic illustration of uterine resection. The paper was discussed, also the subject of the use of pituitrin and ergot and chloroform in obstetrical practice was discussed by the members present. The Society adjourned to dinner at the hotel.

At 2:30 p. m., the Society reconvened and Dr. Coy presented a clinical case, a man of middle age with an obscure trouble attended with perspiration on one side only, and some neurotic involvement of the central nervous system possibly due to luetic infection.

Dr. Roberts reported a case of gunshot wound of the head, with a Roentgen-ray photograph locating the bullet back of left ear; there is partial paralysis of the tongue and pharynx.

Dr. Stufflebam reported a case of chronic ulcer on the leg which was discussed by the members.

Dr. Roberts reported a case of complete paraplegia below the waist line, caused by a tree falling across the man's shoulders and fracturing the cervical vertebra.

The president, Dr. W. D. Drake of Bolivar, appointed Dr. R. Lee Russell, Humansville; Dr. W. Glenn Miller, Morrisville; Dr. B. E. Taylor, Brighton, and Dr. J. F. Roberts, Bolivar, as members of the Committee of Red Cross Medical Service for our local Society, as requested by the state secretary and Maj. R. N. Patterson of Medical Corps, U. S. Army. After transacting some miscellaneous business the Society adjourned to meet at Bolivar on the second Tuesday in December.

J. F. ROBERTS, M.D., Secretary.

RALLS COUNTY MEDICAL SOCIETY

The Ralls County Medical Society met in regular session at Spalding Springs, Aug. 17, 1916. The following doctors were present: J. Franklin Welch, Salisbury, President Missouri State Medical Association; Thomas Chowning, Richard M. Schmidt, J. J. Bourn, E. H. Bounds, J. C. Chilton, R. M. Winn, J. S. Howell and Hardesty of Hannibal; R. H. Goodier, Monroe City; William Bell, Stoutsville; H. B. Norton, Center, and W. T. Waters and T. J. Downing of New London. By courtesy of the Ralls County Medical Society, Dr. J. S. Howell presided.

Dr. J. Franklin Welch read a splendid paper on "A Brief Study of Hygiene and Sanitation Relating to Our Rural Schools," prefacing his paper with forceful and very appropriate remarks on organized medicine in many of its relations. Both his remarks and his paper were received with pleasure and appre-

ciation by the doctors as well as the 200 men and women present. This was our open meeting.

Following Dr. Welch's paper there was a very general and most interesting discussion, nearly all the doctors present taking part. Professor Northcutt, Ralls County's efficient school supervisor, being called on, expressed his high opinion of the paper and mentioned incidentally that he had assisted all that he could in this meeting by writing a circular letter to the 250 school board members, and the 100 teachers of Ralls County, inviting them to be present, many of whom had complied with the request. Brother Campbell of Hannibal, entered into the discussion also. He especially lauded the features of play and warm food advocated in the paper. He said he went to school at Slabtown, Canada, and that the only play the scholars had was the teeter-totter on the refuse planks of the sawmill that gave the name to the town. He said if some kind lady had given him a warm lunch at play time it would have been a day in his memory standing out all by itself. He could never have forgotten it.

Dr. Waters read a paper on "Misleading and Un-suspected Appendicitis So Far as Patient Was Concerned," relating two very interesting cases. Discussion by Drs. Chowning, Schmidt, Bourn and Bounds.

Dr. Norton introduced a discussion on the subject of infantile paralysis, covering the general history, course, pathology, symptoms and prevention, others following in the discussion.

Dr. Winn read a very excellent paper on "Burns of the Eye." An interesting and profitable discussion followed.

Dr. Schmidt exhibited a very interesting specimen. Some weeks since, a diagnosis of ectopic pregnancy was made and operation was done two weeks ago. The left ovary was cystic and partially destroyed. The right ovary was also cystic, but the companion tube was enlarged in its middle third to the size of the thumb. Dr. Schmidt said that he had deferred the confirmatory diagnosis until our meeting, and at once he proceeded to open the tube. He found a three weeks' fetus sufficiently preserved for recognition.

A splendid dinner, fried chicken and all the trimmings, was the first number on the program, after which we heard the splendid papers and discussions. The Ralls County Medical Society greatly appreciated and enjoyed the visit of Dr. Welch and it was a regretted fact that Dr. Goodwin found it impossible to lend his presence.

T. J. DOWNING, M.D., Secretary.

WRIGHT COUNTY MEDICAL SOCIETY

The Wright County Medical Society meeting was held at Norwood, August 4, 1916, at 1:30 p. m. Members present: Drs. R. A. Ryan and L. T. Vanoy, Norwood; Drs. J. A. Fuson and R. M. Rogers, Mansfield; Drs. R. M. Norman and C. W. Burdett, Ava; Drs. H. U. Daugherty, A. C. Ames, E. J. Butzke and E. C. Wittwer, Mountain Grove. The meeting was called to order by the president, Dr. J. A. Ryan. The minutes of the last meeting were read and approved.

Papers were read by Dr. R. M. Rogers, Dr. R. M. Norman and Dr. H. U. Daugherty. This meeting proved to be a very interesting as well as profitable one. It seemed the physicians felt like discussing the papers more than at other times and that is the way to get good out of a meeting.

There being no other business the society adjourned until the next regular and annual meeting to be held at Mountain Grove.

After the meeting adjourned the physicians discussed a fee bill which was signed by the physicians.

E. J. BUTZKE, M.D., Secretary.

THE TRUTH ABOUT MEDICINES

NEW AND NONOFFICIAL REMEDIES

Since publication of New and Nonofficial Remedies, 1916, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

SOLUTION OF HYPOPHYSIS-SQUIBB.—A sterilized, aqueous solution of the water-soluble active principles of the posterior lobe of the pituitary bodies of cattle, free from chemical preservatives and physiologically standardized. It has the properties of the pituitary gland, as described in New and Nonofficial Remedies, 1916. E. R. Squibb & Sons, New York (*Jour. A. M. A.*, Sept. 2, 1916, p. 745).

BENZIDINE.—In medical practice benzidine is used for the detection of occult blood. In the presence of hydrogen peroxid and acetic acid, benzidine is changed to a deep purple compound by the action of blood. The test is said to detect blood in a dilution of 1 in 300,000.

BENZIDINE-MERCK (FOR BLOOD TEST).—This complies with the standards prescribed for benzidine. N. N. R. Merck and Co., New York (*Jour. A. M. A.*, Sept. 16, 1916, p. 879).

OCCULT BLOOD TEST (DUDLEY ROBERTS).—This consists of tablets each containing 5 grains of a trituration of benzidine, 1 part, and sodium perborate, 20 parts, and glacial acetic acid (supplied in boxes containing 100 tablets in vials, and a bottle of glacial acetic acid). A tablet is treated with a weak solution of the material to be tested and a drop of acetic acid added, a greenish blue color indicates the presence of blood. E. R. Squibb & Sons, New York (*Jour. A. M. A.*, Sept. 16, 1916, p. 879).

MERCURIAL OIL.—A mixture containing from 40 to 50 per cent. of metallic mercury in an oily base. The mercury is in a finely divided state and of a consistence which permits its intramuscular injection by means of a proper syringe at room temperature. The degree of subdivision of the mercury should be indicated for each brand of this product. Mercurial oil is used as a means of obtaining the systemic effects of mercury. Cumulative effects should be carefully watched for.

MERCURIAL OIL-NATIONAL PATHOLOGICAL LABORATORY.—A mixture of equal weights of mercury and lanolin obtained by triturating the constituents until mercury globules are no longer macroscopically visible. It is marketed in graduated syringes ready for use and containing 2 Cc. National Pathological Laboratories, Chicago (*Jour. A. M. A.*, Sept. 23, 1916, p. 953).

LIQUID PETROLATUM-SQUIBB, HEAVY (CALIFORNIAN).—It is made from Californian petroleum and is claimed to be composed chiefly of hydrocarbons of the naphthene series. A brand of liquid petrolatum complying with the U. S. P. standards for liquid petrolatum and claimed to be superior to liquid petrolatum, U. S. P. E. R. Squibb & Sons, New York (*Jour. A. M. A.*, Sept. 23, 1916, p. 953).

THROMBOPLASTIN-SQUIBB.—A solution of brain extract complying with the standards for solution brain extract, N. N. R. It is marketed in 20 Cc. vials. E. R. Squibb & Sons, New York (*Jour. A. M. A.*, Sept. 23, 1916, p. 953).

CHLORAZENE.—Chlorazene (sodium para-toluene-sulphochloramine) is an active germicide acting much

like hypochlorites, but being less irritating. Like the hypochlorites it has the advantage over mercuric chloride, zinc chloride, etc., in that it does not coagulate or precipitate proteins, such as blood serum. Chlorazene is reported to be practically non-toxic. The Abbott Laboratories, Chicago (*Jour. A. M. A.*, Sept. 30, 1916, p. 1021).

PROPAGANDA FOR REFORM

THE U. S. PHARMACOPOEIA, IX.—The ninth revision of the U. S. Pharmacopoeia became official Sept. 1, 1916. It is a book of standards for drugs, but it is not a book of standard drugs. The pharmacopoeia includes substances which have been shown to be inert like the hypophosphites, complex and obsolete mixtures like the compound syrup of sarsaparilla, and drugs which have been tried and found wanting like saw palmetto berries. There is one great advantage in specifying U. S. P. preparations: to do so, is to invoke legal standards of identity and purity. The only way to be sure of obtaining substances of therapeutic efficiency, however, is to exercise discrimination; the pharmacopoeia is no guide to therapeutically valuable drugs (*Jour. A. M. A.*, Sept. 2, 1916, p. 750).

THE NEW NATIONAL FORMULARY.—The National Formulary, 4th edition, became official September 1. It is published by the American Pharmaceutical Association. The preface says frankly: "The scope of the present National Formulary is the same as in previous issues, and is based on medical usage rather than on therapeutic ideals. The committee consists entirely of pharmacists, or of men with a pharmaceutical training, and it cannot presume either to judge therapeutic practice or follow any particular school of therapeutic practice. The question of the addition or deletion of any formula was judged on the basis of its use by physicians and its pharmaceutical soundness. The considerable use by physicians of any preparation was considered sufficient warrant for the inclusion of its formula in the book, and a negligible or diminishing use as justifying its exclusion." The National Formulary contains a large number of formulas for preparations which in the U. S. are complex and superfluous. From the pharmacist's point of view, the book is a valuable one. Physicians who have a scientific training in the pharmacology of drugs will not want it; others will be better off without the temptations offered by its many irrational formulas (*Jour. A. M. A.*, Sept. 2, 1916, p. 764).

THE HYPOPHOSPHITE FALLACY.—The Council on Pharmacy and Chemistry reports that the introduction of hypophosphites into medicine was due to an erroneous and now discarded theory as to the cause of tuberculosis and the properties of the hypophosphites. After a review of the literature and in view of experimental work the Council concludes that there is no warrant for the use of hypophosphites in medicine, unless it be to secure the calcium effect from calcium hypophosphite and the ammonium action of ammonium hypophosphite. The Council reviews the claims made for the following and declares them ineligible for New and Nonofficial Remedies: Fellows' Syrup of Hypophosphites, Fellows Medical Mfg. Co., Syrupus Roborans (Syrup Hypophosphites Comp. with Quinin, Strychnin and Manganese), Arthur Peter and Co., Schlotterbeck's Solution Hypophosphites of Lime and Soda (Liq. Hypophosphitum, Schlotterbeck's), The Schlotterbeck and Foos Co., Robinson's Hypophosphites, Robinson-Pettet Company, Eueptic Hypophosphites, Nelson, Baker and Co., McArthur's Syrup of the Hypophosphites Comp. (Lime and Soda), The McArthur Hypophosphite Co. Though in general no therapeutic claims so far as

the hypophosphites are concerned are made for the following, the Council held their use irrational and directed their omission from New and Nonofficial Remedies which now describes them: Borchardt's Malt Olive with Hypophosphites, Maltzime with Hypophosphites, Maltine with Hypophosphites and Maltine with Olive Oil and Hypophosphites (*Jour. A. M. A.*, Sept. 2, 1916, p. 760).

PULVOIDS CALCYLATES.—The Drug Products Co., Inc., New York, markets tablets under the name "Pulvoids Calcyates 5 grain," with claims as to composition which, though vague, suggest that the product is a mixture of calcium salicylate and strontium salicylate. The Council on Pharmacy and Chemistry found that there was no evidence that a mixture of the salicylates of calcium and strontium is superior to sodium salicylate and declared Pulvoids Calcyates ineligible for New and Nonofficial Remedies because unwarranted therapeutic claims were made for the mixture; because the name does not describe the composition; and because the mixture is an unessential modification of an established remedy (sodium salicylate) (*Jour. A. M. A.*, Sept. 9, 1916, p. 827).

SECRETOTEN.—The Council on Pharmacy and Chemistry has reported that commercial secretin preparations examined (Secretogen and Duodenin) contained no secretin and also that secretin is inert when given by mouth. While practically admitting the correctness of the Council's findings, the manufacturer of Secretogen (The G. W. Garrick Co.) in a letter to the Council sets forth the company's claims for secretogen on a new and altogether improbable basis. Since the arguments are purely speculative, the Council reaffirms its previous action declaring this preparation ineligible for New and Nonofficial Remedies (*Jour. A. M. A.*, Sept. 9, 1916, p. 828).

ARSENOBENZOL AND DIARSENOL.—The Council on Pharmacy and Chemistry reports that it found Arsenobenzol, made by the Dermatological Research Laboratories, Philadelphia Polyclinic, Philadelphia, and Diarsenol, made by the Synthetic Drug Company, Toronto, Canada, substantially identical with salvarsan in composition, and equal to salvarsan in therapeutic efficiency. The Council reports that these products have not been admitted to New and Nonofficial Remedies because there is a doubt as to the legality of their sale in the United States. But for this doubt as to their legal status, both products would be entirely eligible to N. N. R. (*Jour. A. M. A.*, Sept. 16, 1916, p. 879).

SULFURYL MONAL.—According to the label these "pastilles" contain "Sulfuryl (combined polysulphurets)" which "liberates nascent sulphuretted hydrogen." The A. M. A. Chemical Laboratory reports that the tablets had the taste of licorice extract, an odor of hydrogen sulphide and that a tablet liberated about 6 c.c. hydrogen sulphide. The Council on Pharmacy and Chemistry reports that sulphides are practically ignored in modern textbooks and declared Sulfuryl Monal ineligible for New and Nonofficial Remedies because unwarranted and dangerous therapeutic claims were made for it (*Jour. A. M. A.*, Sept. 16, 1916, p. 894).

BI-TARIDE TABLETS.—These are dark brown tablets with a strong tarry odor, sold by the Germicidal Products Corporation, New York. The Council on Pharmacy and Chemistry reports that the preparation was found ineligible for New and Nonofficial Remedies because the composition of the tablets is essentially secret, because the therapeutic claims made are exaggerated and an invitation to the public to depend on them in serious diseases and that the combination of coal tar derivatives and boric acid (said to be constituents of the tablets) is irrational (*Jour. A. M. A.*, Sept. 16, 1916, p. 895).

GLYCO-THYMOLINE AND POLIOMYELITIS.—The manufacturers of Glyco-Thymoline are circularizing physicians, advising dependence on Glyco-Thymoline as a preventive against poliomyelitis. A report of the Council on Pharmacy and Chemistry pointed out that this preparation is simply a weak antiseptic, so feeble that even in full strength it does not kill *Staphylococcus aureus* in four hours and is of little, if any, greater therapeutic value than sterile salt solution (*Jour. A. M. A.*, Sept. 16, 1916, p. 895).

NAPHTHALENE FOR AUTOMOBILES.—The A. M. A. Chemical Laboratory reports that "Inajiffi" tablets are pure, or nearly pure naphthalene. The tablets are to be added to gasoline for automobiles, etc. The increase of energy produced by the addition of the tablets is probably too slight to be appreciable. Even if the addition of the small quantity advised by the dealers of "Inajiffi" did give an appreciable augmentation of energy, naphthalene might be bought in the form of moth balls (*Jour. A. M. A.*, Sept. 16, 1916, p. 897).

MARK WHITE GOITER TREATMENT.—The Council on Pharmacy and Chemistry reports that Mark White Goiter Serum and Mark White Iodinized Oil, submitted by the Mark White Goiter Serum Laboratories, Chicago, was not admitted to New and Nonofficial Remedies because the sale in interstate commerce of the "serum" has not been authorized by the Treasury Department, because the statements regarding composition are indefinite and contradictory, because the therapeutic claims were not substantiated and because the routine treatment of goiter is irrational. Mark White is a veterinarian and, in association with various physicians, has exploited his treatment, at one time called "Goiterine" from different cities. In Chicago he has been associated with Dr. Rachel Watkins (*Jour. A. M. A.*, Sept. 23, 1916, p. 967).

THE THERAPEUTIC VALUE OF THE GLYCEROPHOSPHATES.—In view of the very convincing evidence that the glycerophosphates do not possess the therapeutic properties attributed to them and are not superior to ordinary phosphates, the Council on Pharmacy and Chemistry examined the following proprietary glycerophosphate preparations: Tonols (Schering and Glatz) comprising Iron, Lime, Lithium, Magnesium, Manganese, Potassium, Quinine, Sodium, and Strychnine "Tonols," Duotonol Tablets, Triotonol Tablets, Quartonol Tablets, Sextonol Tablets, Phosphorcin Compound (Eimer and Amend), Robinol (John Wyeth and Bro.), Phosphoglycerate of Lime (Fougera and Co.), Elixir Glycerophosphates, Nux Vomica and Damiana (Sharp and Dohme). The Council reports that unwarranted therapeutic claims are made for all of these preparations. In addition the composition of Robinol and Elixir Glycerophosphate, Nux Vomica and Damiana is semi-secret, and Tonols, Phosphorcin Compound and Robinol bear objectionable names (*Jour. A. M. A.*, Sept. 30, 1916, p. 1033).

KORA-KONIA.—Kora-Konia is a dusting powder advertised to the medical profession by the "House of Mennen." It is claimed to be indicated in the treatment of acne, dermatitis, eczema, intertrigo, etc., and is said to possess germicidal qualities. The A. M. A. Chemical Laboratory reported that the powder essentially consists of talcum and zinc stearate in about equal proportions to which small quantities of magnesium carbonate and boric acid have been added. The Council on Pharmacy and Chemistry believes that the extravagant and unwarranted therapeutic claims made for this simple dusting powder are likely to lead the public, as well as the thoughtless physician, to place unwarranted confidence in it and therefore declared Kora-Konia ineligible for New and Nonofficial Remedies (*Jour. A. M. A.*, Sept. 30, 1916, p. 1034).

BOOK REVIEWS

ANNALS OF SURGERY, September, 1916.

"Tumors of the Carotid Body" is the leading article in this number. This is followed by twelve other contributions on various interesting surgical conditions. The transactions of the New York Surgical Society, and the Philadelphia Academy of Surgery are included.

THE CLINICS OF JOHN B. MURPHY, M.D., at Mercy Hospital, Chicago, Vol. V, No. 4 (August, 1916). Octavo of 222 pages, 59 illustrations. Philadelphia and London: W. B. Saunders Company, 1916. Published bi-monthly. Price per year: Paper, \$8.00. Cloth, \$12.00.

This issue contains a large number of clinics on a great variety of conditions of much interest to the surgeon. It contains 220 pages.

A TEXTBOOK OF PRACTICAL GYNECOLOGY FOR PRACTITIONERS AND STUDENTS. By D. Tod Gilliam, M.D., and Earl M. Gilliam, M.D. Fifth revised edition. F. A. Davis & Co., Philadelphia, 1916. Price, \$5.00.

The authors have produced a manual of gynecology which will be helpful, especially to students. The chapter on General Causes of Diseases in Women is uniquely valuable. We cannot, however, subscribe to all of the teaching on pre-operative and post-operative care of patients. The technic of field preparation, the routine use of iodoform dressings, and the refusal to give water to a patient after operation are obnoxious dicta. Nor do we agree that a consideration of gastric, gall-bladder, rectal and renal surgery should be given so prominent a place in any work on gynecology.

R. D. I.

THE CARE OF THE BABY. By J. P. Crozer Griffith, M.D., Professor of Diseases of Children in the University of Pennsylvania. Sixth edition, thoroughly revised. 12mo of 463 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, \$1.50 net.

This is the sixth edition of this well known book, whose popularity seems never to wane. It is a manual for mothers and nurses presented in very readable form. The subjects treated of are those of the feeding, development and general hygiene of the infant, and in addition, one chapter on the expectant mother and another on the sick baby. The book is one that may be safely recommended although its value would undoubtedly be enhanced by the omission of such things as the prescription for "Fever Mixtures," "Disinfectant Vapor" (for disinfecting the air in the room of a diphtheria patient), and one or two other obsolete items.

T. C. H.

PRINCIPLES AND PRACTICE OF OBSTETRICS. By Joseph B. De Lee, A.M., M.D., Professor of Obstetrics at the Northwestern University Medical School. Second edition, thoroughly revised. Large octavo of 1087 pages, with 938 illustrations, 175 of them in colors. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, \$8.00 net; half morocco, \$9.50 net.

This second edition appears after only two years have elapsed since the first edition came from the press, which is sufficient evidence of its popularity and usefulness. It has been thoroughly revised and brought up to date, and is less bulky because thinner paper is used.

The chapters on the Abderhalden pregnancy reaction, "twilight sleep," "dry labor," labor in old primipara, blood pressure and extraperitoneal cesarean section have been much enlarged. Many of the splendid illustrations are new and some of the older ones have been improved. As a textbook on obstetrics it fills its purpose completely.

R. E. S.

A PRACTICAL TEXTBOOK OF INFECTION, IMMUNITY AND SPECIFIC THERAPY, with special reference to immunologic technic. By John A. Kolmer, M.D., Ph.D., Instructor of Experimental Pathology, University of Pennsylvania, with an introduction by Allen J. Smith, M.D., Professor of Pathology, University of Pennsylvania. Octavo of 899 pages, with 143 original illustrations, 43 in colors. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, \$6.00 net, half morocco, \$7.50 net.

The first part of this comprehensive work deals with general immunologic technic. Many forms of practical apparatus are described and some of them are illustrated. The principles of infection and immunity, general and specific, are clearly defined. The historical development of each branch of this great subject has been given adequate consideration.

Part V is devoted to experimental infection and immunity. The sixty exercises are a thorough review of the entire subject. The good points of the book are too numerous to be mentioned. The illustrations are good and well chosen. The author has certainly accomplished the three-fold purpose mentioned in the preface:

1. To give to practitioners and students of medicine a connected and concise account of our present knowledge regarding the manner in which the body may become infected, and the method, in turn, by which the organism serves to protect itself against infections, or strives to overcome the infection if it should occur; and also to present a practical application of this knowledge to the diagnosis, prevention and treatment of disease.

2. To give to physicians engaged in laboratory work and special workers in this field a book to serve as a guide to the various immunologic methods.

3. To outline a laboratory course in experimental infection and immunity for students of medicine and those especially interested in these branches.

R. E. S.

SIMPLIFIED INFANT FEEDING, with seventy-five illustrative cases. By Roger H. Dennett, B.S., M.D., Adjunct Professor of Diseases of Children, New York Post-Graduate Medical School, etc. With 14 illustrations and 355 pages. J. B. Lippincott Co., Philadelphia and London. Price, \$3.00.

The author of this book attacks the subject of infant feeding from a rather unusual angle. Instead of repeating the ancient maxim about every case being a law unto itself, he lays down a set of more or less hard and fast rules for the guidance of the general practitioner when confronted by the problems of infant feeding. That the author has courage may be seen from the title, and it must be acknowledged that he has succeeded in writing a very excellent book on the practical side of infant feeding. The general practitioner has not sufficient time to master the intricacies of "percentage feeding" and it is therefore doubly gratifying to find an author who repeatedly emphasizes how much can be accomplished by means of simple milk dilutions and a little common sense. Frequent examples and case reports serve to illustrate the application of the general principles in actual practice. All theoretical discussions have been eliminated as far as possible as the author's chief aim is to be practical. There remains, however, one subject which has not been very much "simplified" in the present book, and that is the subject of diarrhea in bottle-fed infants, with the classification and treatment. The author starts out by dividing all diarrheas into three classes, but a little farther on there appears a table of differential diagnosis which seems to recognize seven distinct varieties. Surely the niceties of diagnostic skill necessary to differentiate some of them are beyond the average general practitioner. A revision of these chapters may be difficult but will probably be necessary if the book is to live up to its title.

T. C. H.

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ORIGINAL ARTICLES

IMPORTANCE OF EARLY DIAGNOSIS AND PROPER TREATMENT IN INSANITY *

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Since a very early day the medical man has been at war with disease. The foe has been so exceedingly aggressive and has made attacks from so many different directions and with such destructive effect that the conflict has many times seemed hopeless; but difficulties have only stimulated to greater effort, and while the enemy is perhaps no stronger today than a century ago, our colleagues have made much progress. Great hospitals have been constructed and equipped and an army of enthusiastic investigators have placed at the disposal of the present day medical man a mass of information regarding etiology, treatment and prophylaxis that enables him to attack with success where his predecessors would have failed. Asepsis in surgery, vaccination in smallpox, and the general use of antitoxins help to save every year many thousands of lives that would be lost were it not for these modern weapons.

A more perfect knowledge of the causes of disease has enabled the student of preventive medicine during the last two decades to accomplish more in the way of preventing and checking epidemics than had been done in the preceding century. Prophylaxis and early treatment have been urged and quite generally accepted. Nearly every city of 5,000 has its hospital prepared to furnish care for surgical and medical cases; many less populous towns have well equipped surgeons and internists who successfully handle all ordinary and many extraordinary cases. The microscope and test tube are used daily and the practice of general medicine and surgery has taken on quite a scientific

aspect. The laboratory findings worked out by expert pathologists enable the surgeon to determine with considerable accuracy the condition of his patient, and the services of trained assistants and nurses enable him to offer treatment based on the study and experience of the best trained scientists of the world. In most instances the patient very willingly follows the instructions given him and accepts the outcome with gratitude, if it is favorable, while if he gets less favorable results than he expected he takes what comfort he can from the thought that he has "bought the best."

The individual who has been deprived of a few unnecessary organs by a surgeon is looked upon as more or less of a hero and he has been known to exhibit his scars with somewhat the same feeling that a returned soldier does his wounds. In brief: there has been very gratifying progress in medical matters. The asafetida poke, charmed buckskin string and dried buck-eye have pretty generally yielded to scientific prophylactic measures and we have reached the place where it is considered almost a crime to have a preventable disease.

The public has been convinced and is now quite willing to accept the advice and guidance of the educated physician, and does accept such advice and guidance. The above applies perhaps to all ordinary cases of illness such as contagious and infectious diseases and those conditions calling for surgical treatment; but there is another large class of important cases to which it does not apply and to which I now desire to direct your attention.

I refer to the ordinary cases of mental aberration which are as truly preventable conditions as any in the category. The earliest noticed indication of disease is perhaps an unusual irritability, a fear, a dread or a doubt to be followed soon or late by depression or exultation or agitation or delirium with disorders of volition, memory, attention or personality. The condition is as threatening and is as much a disease as though the lesion were in the lungs, the heart or the kidneys, but how differently is the case handled and how different the usual outcome.

* Read at the Fifty-Ninth Annual Meeting of the Missouri State Medical Association, Excelsior Springs, May 8-10, 1916.

Friends notice that there has been a change but instead of consulting a physician and giving the case the proper attention at a time when attention may be worth while, they too often allow the thought that the change may be a natural one, due perhaps to age or some unavoidable condition, to deter them from giving it any treatment. There is concern and interest but the family is uninformed and not much inclined to do differently than the neighbors have done in circumstances that were similar. The relatives feel that the peculiar or unusual conduct of the patient reflects unfavorably on themselves, hence there is often an effort to push the patient into the background in order that his peculiarities may not be known to the public. Later on, when the psychosis is more deeply fixed and the patient has become totally unable to adjust himself to surroundings, his family having in the meantime reluctantly acknowledged their inability to cope with conditions, the neighbors make complaint, the county court and sheriff are notified and within a few days he is rather unceremoniously deposited in a state asylum where he must adjust himself and become a part of a very large family with fixed and immutable ways, where he may possibly improve and ultimately recover, but where very little is actually done for him. His surroundings, however, are usually bearable, and he may in due time receive a parole or a discharge; but how differently does he return to his home than the patient who was relieved of gallstones or appendix.

This patient was officially declared insane, officially conducted to an asylum where he was forced to live behind locked and barred doors and now, even though he has been officially pronounced of sound mind, he has been marked and the stigma remains with him and with his family. Much of this is not as it should be, and the firm belief that our present plan of caring for the insane is entirely inadequate and wrong in principle, and the further thought that whatever is done to improve conditions must be inaugurated and carried forward by the medical profession, prompts me to make the following suggestions relative to the importance of recognizing incipient cases and providing proper treatment for them.

In order that you may at the outset have a definite understanding as to my ideas in the matter I shall very briefly state my thoughts in abstract and later on give reasons for the views expressed:

1. Most cases of insanity have a gradual onset covering months or years.

2. Hereditary predisposition is present in a large majority of cases; however, preventable causes are nearly always in evidence.

3. Most cases, if taken in their incipency, respond readily to treatment, and the skilled, practical psychiatrist if consulted early could prevent many wrecks.

4. Confinement in jails and other forms of penal repression are not suitable methods of treatment for mental diseases.

5. The public asylums are perhaps suitable places for cases requiring care only but not for early cases and those that might be restored by treatment.

6. The state should provide several well equipped hospitals, not too large, located near the centers of population, for the reception and treatment of early cases.

7. Suitable cases should be admitted to these hospitals for observation and study without the formality and publicity now required for admission to state asylums.

8. The favorable cases might thus receive the short treatment required and return to home and friends without being stigmatized by forcible commitment and confinement.

9. Early restoration results in a financial saving to the state.

Physicians and others who have given attention to mental changes and mental capacities of individuals agree that certain types are much more susceptible to psychic influences than are certain other types and that hereditary predisposition plays a most important part in a large proportion of the cases. The child of plodding parents does not, as a rule, fit nicely into the niche carved for the esthetic offspring of parents of high voltage, neither can the supercharged son or daughter of highly organized, aristocratically inclined parents be expected to find contentment and happiness in the slow life of the plodder. There is an environment suitable for each type and each type fits best in its own environment. The thoroughbred horse is not a good bearer of burdens, nor is the heavy-boned, slow-moving draft horse a success on the track; neither one does well when required to do the work of the other. So it is with men and women—many are trying to fill places for which they are totally unfitted and consequently are not doing well and will not last well. I do not think that I am making a misstatement when I say that fully 80 per cent. of all attacks of insanity follow some mistake or series of mistakes made by the individual and that a very large number of these cases are entirely chargeable to such mistakes, and to that extent insanity is a preventable condition.

If it is preventable even to a limited degree the medical profession owes it to itself to inaugurate a campaign of education that will ultimately result in such general knowledge of the causes of insanity that none need endanger themselves through ignorance. Boys and girls

in school should be taught that excesses of all sorts are dangerous; young men and young women should know that sexual and alcoholic excesses and syphilis are the exciting causes if not the prime causes of more than one half of the cases of insanity; and the better informed individuals must know that the physical and mental strength of men and women is not unlimited, and that when the body is weakened and unbalanced by disease the mind is in many instances correspondingly enfeebled.

We must, of course, admit that the element of heredity enters very largely into the causation of a large proportion of cases; in fact some very good observers have said that not more than 18 per cent. of the cases of insanity could be charged to causes that are under the individual's control, such, for example, as syphilis and alcohol. I would contend, however, that even though 82 per cent. of all cases show hereditary predisposition, only part of those who may have inherited a tendency toward insanity really become insane.

If the individual lives within his means, labors according to his strength, fills his proper place in society and in his family and avoids the excesses and mistakes so common to his fellows, he stands a very good chance of escaping the asylum, even though endowed with less than his share of mentality; while, on the other hand, a stronger and better individual may, on account of extravagance, overwork, drunkenness or preventable diseases, become a mental wreck.

I now recall a conversation with a grand old man who was almost famous as a journalist, in which he very lucidly gave his ideas as to the causes of insanity. As nearly as I can quote him he said: "When I was a boy my father lived on a small farm. We had a log house, a log barn, a yard for the cattle and a pig sty. Once a month we rode in a farm wagon to a log church, taking dinner and horse feed and attending a morning and afternoon session. I had a new pair of boots and a new homespun suit each year—the suit being made large so I could wear it for dress-up occasions the first year and for ordinary use the next. I attended school when the farm work was done in the fall and studied at home under my father's direction. At 19 I married the daughter of a neighboring farmer, and our parents and a few neighbors got together and built for us a small house and barn. With the two young horses I had raised and the chickens, geese and a cow that Mary's parents gave to us, we felt that we had a pretty good start in life. Our wants were not many; we were comfortable, contented and happy and we are still alive and contented after fifty-five years. I have a grandson, married six years ago. He courted his sweetheart for five or six years, had a fine team and harness

and a rubber tired buggy, wore fine clothes and carried a gold watch. They had a grand wedding, moved into a large house, expensively furnished. When the baby came, they had a nurse and hired two other women, and soon they bought silk bootees and a rubber tired go-cart. They now have two more babies, his wife's health is gone and they are badly in debt. Now, do you know what I think? Well, I fear that my grandson's wife will soon be what is called a nervous wreck—and there are hundreds of others going the same way every year on account of pride and extravagance." If I were organizing a society of experts on the causes of insanity, the name of this old man should be placed on the charter.

Many persons, hereditarily predisposed to tuberculosis, are now sleeping in the open, using chest exercises, taking cold baths and eating five meals a day because of the publicity given to such procedures, and I have no doubt that many thousands are benefited each year, while those who have inherited an unstable mental organization, though in as grave danger as the former class, continue to ignore the danger signals and too often become wrecks before receiving attention.

There are now in this country upwards of 200 institutions for the care of early cases of tuberculosis and nearly as many more are under construction or provided for, yet there are not more than four hospitals devoted exclusively to the care of incipient cases of insanity.

A commonly accepted though not extremely technical definition runs as follows: "Insanity is any prolonged departure from one's usual method of thinking, feeling and acting." This states the case in the fewest possible words and so plainly that it cannot easily be misconstrued. It makes insanity a *relative* rather than a *positive* condition by specifying that it must be a departure from the person's usual methods. This makes it necessary that we should know the individual's usual methods, else we could not detect the change; and, further, it must be a prolonged departure from his usual methods else it cannot be classed as insanity. It may seem trivial to say it, yet it is important, that as soon as the teacher or parent or other relative discovers a disorder of mentality of more than transitory duration, he should take alarm and seek medical advice for the patient.

If, owing to congenital defect, mental development has been retarded, the child's hours of study should be shortened, his burdens lightened, and such readjustments made in his study, work and play as will fit his individual case.

If under the stress or strain of an exacting life an adult begins to "break down," immediate medical relief should be secured and arrangements made for such treatment as promises most speedy restoration. The term "over-

work" is relative to the constitutional equipment and to the mental and physical strength of the individual. There are certain periods in the life of the individual when the mental strain is likely to be excessive and at such times extra care should be exercised, especially by those who are known to be neurotically inclined. I refer particularly to the years between puberty and maturity in both sexes—the menopause in women and the years of rapid physical decline in both sexes. Most cases of that very common psychosis dementia praecox appear in the first period, reaching their height at the end of adolescence; the manic depressive cases are most common in middle life; the dementias and melancholias usually appear in the years of physical decline. Disappointments, worry, financial losses, love affairs and religious excitement though often listed among the causes of insanity are not the real causes, else we should all be insane for we must each have had several disappointments and no doubt a few love affairs. These oft assigned causes are truly exciting or contributory causes, and are entitled to consideration, but the real foundation of the psychosis may be found in the continued ill health, excessive physical or mental strain in an individual not physically or mentally strong enough. Much could be done to prevent many of these outbreaks by giving attention to their causes and issuing frequent warnings to those who appear to be in danger.

When the family medical adviser decides that expert advice is needed, he should refer the case to a trained psychiatrist for observation and study, and the ideal and proper arrangement would be to have a small hospital, equipped especially for making examinations and observations, and having it as easy of access as the general hospital, except that patients should agree to stay a reasonable time for observation and for treatment if necessary and that they would not leave without first giving notice of their intention to do so.

Voluntary admissions should be encouraged, the patient being assured that his liberties are not at stake and that the hospital is maintained for treatment rather than for repression.

When hospitals of this class have been in operation a decade or two, much of the present feeling against public asylums will be forgotten and the public will take a much more reasonable view of insanity and those mentally afflicted.

The matter of cost is properly to be considered when any public business is undertaken, and at first thought it would appear that the state already has enough public institutions and that the addition of more would increase taxation to an unreasonable extent; but the restoration of an incipient case of insanity results in a saving to the state of approximately \$3,500, which represents the cost of asylum care for

nine years, plus \$1,800, the computed average earnings for the same period, which is the average asylum life of the chronic case.

Statistics and carefully prepared estimates make it appear that approximately 1,800 preventable cases of insanity appear in the state of Missouri in each year, and it is but fair to assume that fully 1,000 of these become state or county charges; estimating the cost of maintenance at \$200 annually for each one and allowing for the average mortality rate we find that the state is spending about \$600,000 annually for cases that might have been saved had their danger been discovered in time and proper safeguards thrown around them.

I believe that prophylaxis is as practical and necessary in mental diseases as in diseases classed as physical and that the time is close at hand when the truth of this will be much more fully realized than it is today.

SPORADIC MENINGITIS IN CHILDREN *

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Much has been written about the diagnosis and treatment of meningitis. Latterly the treatment has been pretty much confined to the use of the specific serum in the cases due to the meningococcus, the others having been shown to be practically uninfluenced by treatment; and the points in diagnosis have concerned themselves mostly with the indications for lumbar puncture, that being the actual means of diagnosis.

This paper has been prepared principally because of the large proportion of cases I have seen in which the children have come to my notice without the meningitis having been suspected, or in which lumbar puncture had not been done, even though the condition was perhaps suspected.

Cases of sporadic meningitis, that is, meningitis occurring in scattered localities, one at a time, here and there, without any sort or degree of an epidemic, seem for some reason difficult to recognize. And yet there are few conditions in which the diagnosis is easier or more certainly made if one happens to think of it.

And the diagnosis is of great importance, in the acute meningococcus cases, because of the necessity of early treatment; in the tuberculous and other cases, because of the advantage of giving the proper prognosis. In the tuberculous form, which is by far the most frequent, early diagnosis is often exceedingly difficult unless one thinks to do a lumbar puncture; as I said

* Read at the Fifty-Ninth Annual Meeting of the Missouri State Medical Association, Excelsior Springs, May 8-10, 1916.

before, the various symptoms are of value only as an indication for this procedure.

During the last five years I have kept records of every case of sporadic meningitis in which the organism was definitely determined. Most of the cases were observed at the St. Louis Children's Hospital and the City Isolation Hospital. When this paper was first written it included forty-seven cases, of which thirty-five were properly sporadic, and twelve occurred during what might be considered a moderate epidemic. Since that time ten additional cases have been seen, in each of which the organism was found, making forty-five cases that can be properly considered as sporadic.

Of these twenty-five were due to the tubercle bacillus, ten to the meningococcus, four to the streptococcus, three pneumococcus, two staphylococcus, and one to the influenza bacillus.

The age incidence varies considerably from that of other series of cases. The cases of purulent meningitis occurred in children under two years of age in all but six instances, 70 per cent.; and the tuberculous cases in children under 2 years in only eleven instances, 25 per cent.

One case due to the staphylococcus was an infant 12 days old. The only symptoms were frequent convulsions, irregular low fever, and a very misleading diarrhea. Between convulsions there was no neck rigidity, no Kernig, no Brudzinski, and no constancy about any of the reflexes. The baby developed a rapidly progressing hydrocephalus and died in about two weeks. No focus of infection could be demonstrated. Lumbar puncture done on the second day of observation showed a purulent fluid with pure staphylococcus culture. This case was seen with Dr. Herman A. Hanser. It evidently had very little resistance to the staphylococcus infection for it developed an impetigo that spread like wildfire and could not be in the least controlled.

Two of the streptococcus cases followed fracture of the base of the skull. The other two chronic otitis media.

Two cases of pneumococcus infection developed in the course of pneumonia. The other was presumed to have had pneumonia from the history but none could be demonstrated.

Of the fourteen infants out of the twenty cases of purulent meningitis seven showed definite hydrocephalus, two of them after the acute symptoms had subsided. This is to be feared always in infants. All but two of the infants died. One that recovered had a severe ophthalmia with tremendous swelling and marked purulent secretion. This was pronounced by the oculist to be a meningococcus infection, though at the infectious hospital we had been unable to determine the organism. Sight was destroyed in the eye. Four of the older children recov-

ered perfectly. None of the distressing sequelae occurred.

There were three cases of chronic posterior basal meningitis, in two of which the meningococcus was found; in the other the cause could not be determined, and it is not included in the series.

The most disconcerting point in the observation of these cases is the difficulty in recognizing meningitis in young infants. The tuberculous form is particularly hard to recognize when it develops rather suddenly and the paralytic stage rapidly ensues. I have seen four cases in the paralytic stage in which no history pointing to meningitis could be obtained, and the diagnosis of meningitis had not been made until the child entered the hospital. During this stage the diagnosis can be made almost at a glance by one familiar with the disease. The recognition of the purulent forms is much easier, but other conditions often simulate it very closely. Chief among these is intoxication, next pneumonia, and next poliomyelitis. Cerebrospinal lues is usually differentiated readily by the history and a few days' observation. Cases of intoxication can present an absolutely typical picture of meningitis, as can other conditions less frequently.

This condition of meningismus, or meningism, is a very remarkable one. It may be seen in almost any acute febrile condition or occur without known cause. One case in particular illustrates this very well. A rather neurotic boy of 10 years was brought to the clinic having been taken suddenly with a severe headache the day before. He had been frequently seen in the clinic for various illnesses. I showed him to the students and a couple of post-graduates as a typical early meningitis; it was so typical that I sent him into the hospital to be demonstrated by Dr. Tuttle, who was quite as impressed as I was. He had the severe headache, sharp reflexes, hyperesthesia, photophobia, sluggish pupils, neck tenderness and rigidity, Kernig and Brudzinski. I know better now, but I was willing then to pronounce that a case of true meningitis. Lumbar puncture showed a decidedly increased fluid, but perfectly normal. The headache subsided rapidly after the puncture, all other symptoms more slowly, and the child was perfectly well next day and remained so.

Spinal puncture is the only definite means of diagnosis. It is best done at once in every case with meningeal symptoms. If a turbid fluid is withdrawn the diagnosis is made. It is easily performed and is quite harmless if done in a cleanly manner. Partial anesthesia is advisable when the rigidity and hyperesthesia are marked, chloroform or ether being used as indicated. Local anesthesia is of slight value, as the periosteum cannot well be anesthetized. Great pain is caused by scratching the periosteum in prop-

ing for the opening into the canal. The best way to enter the canal is in the mid-line, just below the spine that is nearest the level of the iliac crests; entrance is safe anywhere below the body of the third lumbar vertebra. It is usually well to grasp the needle about $1\frac{1}{2}$ inches from the point, so as to measure the depth of penetration; the canal is entered at a depth of from 1 to $1\frac{1}{2}$ inches, according to the age and size of the child. If the fluid does not flow when the canal is entered the child may be raised to a sitting posture, but should not be left so after the flow has started. Dry taps usually mean faulty technic, but may be due to a clot of blood, a clot of fibrin, or to the point being pressed against the anterior wall of the canal. True dry taps do occasionally occur, due no doubt to decreased secretion of the spinal fluid or very scanty exudation. Obtaining true dry taps on two successive days is exceedingly rare and should be regarded with suspicion.

The most valuable lesson learned from these cases is the advisability of giving Flexner's serum in every case as soon as a purulent fluid is obtained. Valuable time is lost looking for the organism. The serum does no harm in any of the purulent cases, and the earlier it is used in the meningococcus form the better. And it seems inconsiderate, to say the least, to subject the child to a second puncture for the administration of the serum when the needle has already been in place ready for the injection. If, later, some other organism is found to be the cause, the serum is, of course, discontinued.

The serum should be given as long as the acute symptoms continue, every twelve hours in severe cases—every twenty-four in milder ones. When headache, fever, restlessness, etc., have subsided the neck rigidity can be disregarded; it may continue for several weeks.

The most valuable points in the probable diagnosis of purulent meningitis are the sudden headache with fever, the hyperesthesia, neck or other rigidity, eye symptoms, irregular pulse and breathing; and the signs of McEwen (after some practice), Brudzinski, and Kernig. The last is quite often present in cases that are not meningitis, and often absent in true meningitis. In infants rigidity of the neck muscles often can only be demonstrated by having it lie on one side and note the retraction. This sign, with bulging fontanelle and eye symptoms are particularly important in infancy. Rigidity by manipulation is very hard to interpret. A very valuable point of differentiation is the refusal of the child to turn the head when attracted by something at one side.

In tuberculous cases the most important points are irritability combined with periods of drowsiness increasing from day to day; hyperesthesia, vomiting and constipation; headache is very common in children over two years; nearly

always also careful examinations will reveal some irregularity of pulse and respiration, sluggish, contracted pupils, and some tenderness and rigidity of the neck. Other signs due to muscular rigidity are very unreliable. The slowly deepening drowsiness, with irregular pupils and irregular pulse and breathing, are extremely characteristic of tuberculous meningitis. Often there is a history of tuberculosis, or evidences of it elsewhere in the body.

Spinal puncture seems to be considered by a great many physicians as largely a hospital measure. With ordinary care it can be done perfectly well at home and the care is only that which must also be observed in a hospital. There are certain advantages in the materials being at hand with which to properly examine the fluid, but sufficient information is obtained at once from the fluid itself to make intelligent action quite possible.

A clear fluid, under increased pressure, may be obtained in meningism from any cause in cerebrospinal lues, poliomyelitis or intracranial abscess. I have seen a case of typhoid fever in which the tentative diagnosis of meningitis was made, lumbar puncture performed, 40 c.c. of a clear fluid withdrawn, with the marked subsidence of the delirium, restlessness and the general rigidity. Any inflammatory condition with a clear fluid, as tuberculosis, lues, and poliomyelitis, is absolutely differentiated from the noninflammatory conditions by one or two very simple tests. Noguchi's test of heating with 10 per cent. butyric acid in NaCl, and adding normal NaOH, will show an increase of globulin in all inflammatory cases; Nonne's test with saturated $(\text{NH}_4)_2\text{SO}_4$, is perhaps of less value, but is quite as definite in practical hands. The cell count, gold chlorid and other finer tests, are of no special value in differentiating meningitis, though the gold test is said to show a typical tuberculosis curve. I believe that, with the proper care and patience, the tubercle bacillus can be found in the spinal fluid in nearly every case with the first fluid obtained. It is best to take the last fluid which flows out. The centrifugation is facilitated by allowing a drop of blood (from one's own finger) to mix in the top of the fluid. Rapid revolution for several hours is necessary. Then the fluid is drawn off, all but a few drops at the bottom. This is shaken, and the bottom of the tube scraped well with a sharp instrument.

A drop is allowed to fall on a slide and is dried as it lies without disturbing; another drop is superimposed and dried the same way; every drop is so dried in the same spot, perhaps eight or ten. Staining is done as usual, but decolorization is usually perfect in twenty seconds. By this means I find the organism in practically every case at the first trial.

The turbid fluids need little examination,

except for the germ causing the inflammation. Generally the turbidity is so marked that the purulent nature is apparent. If not, the preponderance of pus cells absolutely differentiates the condition from anything else. The meningococcus is readily differentiated from any other organism causing meningitis by the fact that it is a Gram-negative coccus. The Claudius modification (1 min. gentian violet, $\frac{1}{2}$ min. picric acid, decolorize with chloroform), is simple, time-saving, and accurate. Examination for the organism, or smears on culture, should be made as soon as possible, as the organism seems to be readily destroyed by standing in the fluid. Immediate culture on suitable media is advisable in every case, as exact knowledge of the organism will of course have a definite value in deciding for or against continuing the serum.

Ventricular puncture is indicated when only a small amount of fluid is obtained (a few drops) and the symptoms are severe. It should not be resorted to unless the same conditions are shown on two or three successive days. There seems to be some value in having the child lie on alternate sides on successive days to allow ventricular drainage. If the ventricles evidently do not empty themselves, and the purulent fluid is probably accumulating, ventricular puncture should be attempted by some one thoroughly familiar with it. Serum should be injected only if several cubic centimeters of fluid is obtained, and then with great caution.

In regard to the remarkable lack of contagiousness of the sporadic form of diplococcus meningitis, no explanation seems to be available. In this series there was only one family in which more than one case occurred, and in no other case was there any other case in the neighborhood, and no explanation of how the infection occurred.

Wall Bldg.

SACRO-ILIAC STRAINS AND LUXATIONS*

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KANSAS CITY, MO.

Lumbago and sciatica have been familiar terms in general usage for years and we have realized that most of these troubles recover with rest and massage.

It was not until the sacro-iliac joints were shown to be true joints, possessing all the elements necessary for a joint and therefore subject to joint disabilities, that we began to appreciate the importance of these articulations in their relation to the above named troubles.

It was formerly taught that the sacrum was the keystone of the pelvic girdle, but this is

not altogether true. In fact, the sacrum is held in position by its strong ligamentous and muscular attachments.

Under normal conditions a certain amount of physiological rocking motion is present through a backward and forward arc, the pivotal point being about the second sacral segment. Necessarily with motion in the sacro-iliac joints there is also a movement of the symphysis pubis.

Posterior movement above increases all the diameters of the inlet of the pelvis and diminishes the outlet. The opposite obtains with the backward movement of the lower portion of the sacrum. The so-called Walcher position used in obstetrics is founded on this fact.

During certain periods, physiological relaxation of this joint occurs in the female. I have reference to menstruation and pregnancy. Pathologically, we also find a relaxation of the joint associated with pelvic disease.

Etiology.—Among the predisposing factors associated with sacro-iliac strain and luxation are the conditions just mentioned. Postural irregularities are also potent factors in bringing about the static strains and luxations.

The normal alignment of the body is as follows:

1. A plumb line let fall from the spinous process of the seventh cervical passes midway between the nates.
2. A plumb line let fall from the tip of the mastoid should pass through the front of the shoulder, great trochanter, behind the patella and about 1 inch in front of the external malleolus, in the normal individual.
3. In alignment of the leg, the line should pass from the anterior superior spine of the ilium through the middle of the patella on to the middle of the ankle.

Any abnormality in the contour of the joints or bones of the lower extremities or spine may, by causing muscle fatigue, predispose to sacro-iliac strain or luxation.

Goldthwait claims that 20 per cent. of individuals have abnormal structural development and therefore defective posture, e. g., flat foot, short leg, flat back, broad and long transverse processes of the fifth lumbar, sacralized fifth lumbar and visceroptosis. It is not to be understood that all individuals who have any or all of these conditions are necessarily the subjects of sacro-iliac sprain, but that they may contribute to the production of it for reasons already given. Also that it is necessary to correct these postural defects before some of the cases can be relieved.

Besides the above named structural peculiarities and physiological laxity of the joints, acute trauma to the joints either directly or indirectly applied, or long continued pull on the muscles and tendons may cause strain and

* Read at the Fifty-Ninth Annual Meeting of the Missouri State Medical Association, Excelsior Springs, May 8-10, 1916.

luxation, e. g., an individual may be cranking his car in a more or less awkward position and be suddenly seized with the pain; or again, I have known a woman four months pregnant who, in rising from the dinner table, suddenly developed a luxation; a laborer working with a shovel with the spine flexed who developed this trouble.

Another individual who was motoring for several weeks last summer developed it. He stated that as he grew tired he would slide down in his seat, putting the posterior ligaments and muscles on the stretch. Postoperative cases of strain, before the adoption of the pad to the small of the back during operation, are no doubt the most common instances we have seen.

The "stitch" in the back one feels when rising suddenly in a strained position is frequently explained by a slight tear of the sacro-iliac ligaments or supporting muscles.

Direct trauma to the bones entering into the joint or transmitted to the joint through other skeletal bones, as etiological factors, requires no amplification.

The direction of the sprain or luxation may be: (1) backwards; (2) forwards; (3) very seldom upwards or downwards. The backward sprain or dislocation is the one we most frequently meet.

Symptoms.—The symptoms associated with this condition are mentioned in order of importance: (1) pain, local or referred. In the acute condition, local pain is sudden and the first thing noticed and is usually said to be in the small of the back. Because of the intimate relation of the lumbosacral cord, these nerve filaments become traumatized and we have the referred pain, radiated to the distribution of the nerves irritated, e. g., down the back of the thigh and into the leg, about the knee or groin and if the sympathetic plexuses connected with the bladder and rectum be irritated there will be vesical and rectal symptoms. If the luxation be of the chronic static type the pain is not as severe as in the acute type. There may be more mobility and laxity in the joint, yet where the change is a gradual one the nerves seem to be able to adapt themselves to their new environment and the referred pains are not a marked feature. Another point about the pain is that it seems out of all proportion to the severity of the injury received.

(2). Attitude. There is nearly always a listing of the body away from the injured side. The spine is held rigid so as to protect as much as possible movement in the sacro-iliac joint.

(3). Tenderness. Tenderness may be elicited either to external pressure over the joint or by rectal examination.

(4). Motion. In the acute sprains no motion beyond the physiological will be noticed on examination. In the luxations, however, distinct differences will be found on the two sides

to palpation. By moving the leg, especially flexing the thigh with knee extended, increased mobility may be demonstrated. Motion in the acute conditions gives acute pain which calls forth resentment on the part of the patient.

Manipulation of the joint is often accompanied by a "snap" as the surfaces are readjusted.

Roentgen ray. The Roentgen ray will disclose luxations of the joints and at times may even show a slight separation of the joint.

Diagnosis. Given a history of pain in the back associated with pain in thigh, leg or vesical or rectal region, one should immediately think of sacro-iliac strain. In the traumatic cases there is frequently no history of injury and the activity of the individual at the time the sprain occurred may have been slight.

The two symptoms, considered as entities by many, which are confused with sacro-iliac sprain and luxation are sciatica and lumbago. Neither of these diagnoses should be made without a thorough investigation of the sacro-iliac and lumbosacral articulations.

Traumatism of the joints under discussion must of course be differentiated from the inflammations, new growths and malformations of the joints.

The association with this condition of pelvic disease also requires consideration, as they frequently coexist.

Differentiation from lumbosacral affections can best be made with the Roentgen ray.

Treatment. Many of the minor sprains of this joint are replaced and adjusted automatically by hypertension of the spine. Other sprains and stresses of the joint require support and rest for a period varying from a few days to several weeks. This may be effectually accomplished by strapping the pelvis, usually with the spine hyperextended and the use of a sand bag under the small of the back when the patient lies in the dorsal position.

With the severer sprains and luxations more energetic treatment must be undertaken. If the joint be luxated, a general anesthetic should be given and manipulation of the joint made. (1) With the patient lying on the back the flexion of the thigh upon the abdomen with the knee extended will tend to reduce a posterior luxation. The reverse motion and position for the anterior.

In case of posterior luxation the suspension of an individual from the shoulders and thighs between two tables with the body sagging will bring about the same result. In the severer cases after reduction or adjustment a plaster cast should be applied extending well above the pelvis and include in a spica the thigh of the injured side. This should be worn for a period of several weeks to several months, depending on the severity of the injury. Afterwards support should be given the pelvic girdle either by the use of an inelastic belt extending

from the crests of the ilia above to the trochanters below or a pelvic pad adjusted to the corset or pelvic belt. Care should be observed for months that no sudden strain be put on the joint.

In the more chronic static strains and luxations the use of the sacral pad usually suffices to give relief. The predisposing elements should at the same time be corrected.

Prognosis.—The cases of lesser severity will recover spontaneously, but may be materially relieved by the treatment outlined. The cases of more severe nature tend to chronic invalidism unless recognized and properly treated, when they respond very kindly.

CASE 1.—Mrs. F. C. S., aged 26, married, Para 3. Has had three pregnancies in past three years, having given birth to two full term children. At this time four months pregnant. June 18, 1915, in getting up from the dinner table felt a pain in small of back, right side, the pain radiating down the back of the right thigh. Had some lameness in back next day with radiation of pain. Next day felt better. The next day, after no extraordinary exertion, pain became excruciating. I first saw her at 2:30 a. m., diagnosing sacro-iliac luxation. Was suspended between chair and bed on chest and thighs and pelvis and back strapped with adhesive. A small pillow was then placed under the small of the back. Also given morphin, $\frac{1}{4}$ gr. Relief. Felt comfortable next day. Next had some little pain in parts noted. Night of June 24 had severe pain. Seen at 8 a. m. and was given morphin, $\frac{1}{4}$ gr., and straps readjusted. Slight relief. During the morning was given three half-grain doses of morphin. At noon was given gas anesthetic and vaginal and rectal examination made. The right sacro-iliac joint was quite mobile with the upper part displaced backwards. Replaced while under the anesthetic and a sand bag placed under upper part of sacrum. After recovery from anesthetic the pain was the most severe I have ever seen. Tried Buck's extension with fifteen pound weight. This seemed to increase the pain, but manual extension on the foot gave comparative relief. Was given morphin, gr. $\frac{1}{4}$, and hyoscin, gr. $\frac{1}{100}$. 1 a. m. After this she slept until 7 a. m. and had no more severe pains. The question of the future care arose. After the ordeal she had just passed through, and with a tendency for the joint to become more lax because of her pregnant condition, it was decided to interrupt the pregnancy, which was done by Dr. F. E. Wilhelm.

The subsequent course of this case was without special moment. She was kept quiet for a period of four weeks with a pelvic belt and sand bag to back. After this was allowed to move about with care for a period of several weeks, since which time she has gradually resumed her household duties. She informs me that now she has an occasional twinge of pain with strain on the joints.

CASE 2.—Mrs. W. W., aged 19, married. The second case of special interest which has come under observation was the most remarkable case of sacro-iliac luxation I have ever seen. When a girl of 5 or 6 she states she fell a distance of 10 or 12 feet, striking on the right hip. Says the trauma was sufficient to confine her to bed for about two weeks. Was seen later by a physician, who diagnosed hip disease and she was sent to the country to recuperate. During her girlhood she states that her back would tire easily when sitting for any length of time. Would frequently have to be dismissed from school for this reason. When 12 years of age she had trouble with her lower back, which confined her to

bed for about two weeks. During the attack was bent nearly double. Married at 17 years of age. When 18 years old, was having trouble with her back and an x-ray was taken. This showed a marked luxation of the right sacro-iliac joint, with the ilium rotated. There was a listing of the body to the left and marked tenderness over the right sacro-iliac joint. At this time she said she would frequently be seized with a sudden pain in the back if she attempted any exertion which put a strain on her back. As the pain struck her she would be unable to straighten her spine. By muscular efforts with back and buttocks she would be able to relieve her pain and says she has felt and heard a "click" at times as relief would come. In 1914 she became pregnant and much anxiety was felt over her condition, but she carried her baby to full term with spontaneous delivery. Since this time she has felt very comfortable and an x-ray taken May 5, 1916, shows her right sacro-iliac joint in position. She has had no treatment directed toward the adjustment of her sacro-iliac trouble. There is tenderness over her right sacro-iliac joint, a listing of her spine to the left and a sacralization of the fifth lumbar at this time. I have no record of the sacralized fifth lumbar from my first examination, but it probably was present.

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DISCUSSION

DR. F. D. DICKSON, Kansas City: I think Dr. Hayden's paper is an opportune one, for this reason. When Goldthwait first drew our attention some years ago to subluxation of the sacro-iliac joint, the condition received entirely too much attention, more than it deserved; now the pendulum has swung in the other direction and the condition is not receiving the attention it deserves.

As Dr. Hayden states, we have two or three distinct types of trouble around the sacro-iliac joint. First, we have the acute luxation so-called, which usually follows some trauma, generally a lifting or twisting force. Second, we have—and this, I think, is the more important—chronic sacro-iliac strain.

That postural abnormalities are frequently the cause of sacro-iliac luxation is very easily understood. The joint is a true joint but depends very largely on the ligaments for its support; the entire weight of the trunk is transmitted to the pelvis through the sacro-iliac joints. So long as this weight is transmitted in a normal manner the joint is usually capable of taking care of it; but if, through postural abnormalities, the weight is borne in an abnormal manner then an unusual amount of strain comes on these joints and we get the chronic sacro-iliac pain, and after pain there comes pain up and down the back, because you cannot interfere with the sacro-iliac joint without interfering with the spine. This pain up and down the entire back is due to muscular spasm and one of the points which I would emphasize is that muscular spasm, one-sided muscular spasm, is a very important point in determining a sacro-iliac luxation.

These chronic sacro-iliac conditions we meet most commonly in women due unfortunately to the demands of fashion, I believe. In other words, they wear impossible shoes and very poor corsets, resulting in postural changes which bring strain on the sacro-iliac joint; and this, I think, explains the rather large number of women who are suffering from chronic backache year in and year out.

The second point is in regard to the support to be used in these cases. Of course, in chronic luxations you do have to put on plaster jackets and other supports, but after you have removed your plaster jackets the support applied is rarely enough. The usual support made by the instrument maker is insufficient. The proper support of a sacro-iliac joint

will give three things: it will give support around the joint; second, it will lift up the abdomen thus relieving strain in the joint; third, it will support the back as far up as the shoulders. This support is best given in women by a proper corset, stiffened by steel if necessary.

The third point I wish to discuss is in regard to sacro-iliac relaxation in pregnancy. The two interesting cases which Dr. Hayden has reported are very enlightening. If you will remember that a very large number of women are potentially sacro-iliac cases to start with, because of abnormalities in posture, and if you add to that the normal changes which occur in the pelvis during pregnancy, amongst which are the relaxations of all the pelvic joints, then it seems a common-sense procedure to introduce preventive treatment during pregnancy to guard against the occurrence of trouble in the future from this joint. How is this to be done? I am firmly convinced that every woman who is pregnant should from the early months wear a properly fitting corset which does the three things I mentioned. But it must be the proper corset. There are good corsets, indifferent corsets, and bad corsets. But if given a proper corset, most women would go through their pregnant period very much more comfortably than they do without one.

One point more, and that is that the ordering of a corset for a woman is not all. If you have ordered a woman to put on a corset, do not think that you are through. The best corset, carelessly worn is worse than none at all because the woman will depend on it and get no help. So if you once order a corset for a woman during pregnancy you have got to make up your mind that you will have to teach her how to put it on and you will have to see that she does put it on in that way, because in that way only will you get results.

DR. E. D. TWYMAN, Independence: I suppose it has been the lot of every one to expect relief to follow some pelvic operation on a patient and find that though there was plenty of trouble in the pelvis the patient was not relieved after the operation because the trouble that was complained of, and the symptoms were caused by such a luxation as the doctor has called our attention to.

I want to detail an experience with regard to a sacro-iliac joint condition coming under my observation. A young man had a luxation due to a football injury and there was actual rupture of the ligaments so that the pelvis rocked to and fro. When we pressed on the crests of the ilium there was considerable movement. The problem of fixation in this case was a very acute one and we made an exhaustive study of the ways by which we might bring about fixation. After a good deal of experimenting we found that by suspending him from the ceiling or a transom we could put the joint in its proper relation, and while suspended we put on a very long, wide, elastic bandage that gave elastic support. Then he could walk, although his pelvis previously wiggled as he walked. With this support he got along very nicely and finally we obtained a complete recovery.

Now it may be that you will find cases where even a corset will not give the necessary support and will need to be supplemented. So I call your attention to our successful experience with this sort of bandage. After looking about, we found the best bandage for this purpose was one used on horses. They come in packages of six, cross woven stuff, and you get them from a harness supply shop. Splice them together and they make quite a roll.

DR. JOHN G. HAYDEN, Kansas City, closing: I have nothing to add except to call attention to the fact that the two cases I have reported seem to be diametrically opposed. In one of them, we interrupted a pregnancy because of the luxation; in the other, after the woman became pregnant and the mother of a child, her luxation seemed to be cured.

SYSTEMIC BLASTOMYCOSIS AND COCCIDIOIDAL GRANULOMA WITH A DESCRIPTION OF THE FIRST CASE OF COCCIDIOIDAL GRANULOMA REPORTED IN MISSOURI*

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Blastomycetic dermatitis is no longer a very rare disease, but systemic blastomycosis may still be considered infrequent. The type characterized by skin involvement was first described by Gilchrist¹ in 1896 and later by numerous other American observers.

In 1902 Walker and Montgomery² reported the first case of systemic blastomycosis, and according to Hektoen,³ nine others were reported from Chicago between that time and 1907. Whether this disease is more prevalent in that region or whether our Chicago observers are more alert than their colleagues may never be determined.

In 1894 Busse and Buschke⁴ reported a case of "saccharomycosis hominis," which, from their description, seems to have been a case of blastomycosis.

Blastomycosis is more frequently found in men at or near the adult age. Though no occupation is known to predispose to it, most cases have occurred in those performing manual labor. It has not been proved that this disease is hereditary or contagious, though a case has been recorded in which an incised wound became infected with blastomycosis.

Recovery from systemic blastomycosis has occurred in only two cases. Blastomycetic dermatitis may, however, get well if treated with potassium iodid internally and surgical dressings locally.

While systemic blastomycosis is essentially a chronic disease, some of the cases have a sudden onset; most of them, however, develop rather slowly. The rapid cases are much like an acute febrile disease. Pulmonary symptoms and signs, such as cough, expectoration and pain in the chest, with findings simulating those of tuberculosis, may be manifest early, while others show cutaneous, subcutaneous and deep lesions at the beginning. The superficial lesions may start as nodules which later undergo softening and appear as abscesses, and may then break through the skin and produce ulcers. Bones are frequently involved causing necrosis and suppuration. The blastomycetes may be found in

* Read at the Fifty-Ninth Annual Meeting of the Missouri State Medical Association, Excelsior Springs, May 8-10, 1916.

1. Gilchrist: Case of Blastomycetic Dermatitis in Man, Johns Hopkins Hospital Reports, 1896, i, 209.

2. Walker and Montgomery: Jour. A. M. A., 1902, xxxviii, 867.

3. Hektoen: Systemic Blastomycosis and Coccidioid Granuloma, Jour. A. M. A., Sept. 28, 1907, p. 1071.

4. Busse and Buschke: Virchow's Arch., 1896, cxliv, 360; Volkmann's Sammlung klin. Vortraege, 1898, No. 218.

these lesions, and when there is pulmonary involvement they may be demonstrated in the sputum.

It is thought that the principal avenues of infection are either through the respiratory tract or by the dermal route, depending on the type of most definite localization. Blastomycosis does not, as a rule, involve the lymph nodes. It has been conclusively shown that this infection travels in the blood stream. In fact, the organisms have been demonstrated microscopically in the blood.

Hektoen³ states that the study of human material as well as material from inoculated animals shows that the micro-organism in question may produce the formation of an inflammatory granulation tissue with numerous giant cells of the Langhans type, associated with more or less extensive suppuration. Microscopically, the lesions strongly resemble those of tuberculosis. Blastomycetes are found in these lesions and may be grown in pure culture, though with some difficulty. They are double contoured, spherical, frequently budding organisms, varying from 10 to 30 microns in diameter. They are pathogenic yeasts. Smears from the pus will easily demonstrate them if treated with a 1 to 4 per cent. potassium hydrate solution. They grow readily in the usual media and easily take the ordinary stains.

COCCIDIOIDAL GRANULOMA OF OPHÜLS OR CALIFORNIA DISEASE

In all, but forty-one cases of this disease have been reported in the literature. Dickson⁵ states that thirty-five of these have been residents of California and three have visited the state. The case herein reported is the third case, according to the literature, that has never been in the state of California. The first case came under the observation of Posadas⁶ in Buenos Aires and was described by Wernicke⁷ in 1891 and later discussed by Posadas⁶ in 1900. These observers, as well as Rixford and Gilchrist, who reported the first case in the United States,⁸ looked on the infecting organism as definitely protozoon. Later Ophüls⁹ and Wolbach¹⁰ announced that it was unquestionably a yeast fungus similar in many respects to the blastomyces, and since then it has been known as the "oidium coccidioides of Ophüls."

All but two of the reported cases have been

in men. The course of the disease is usually chronic, ranging in duration from two months in our case—the shortest on record—to a period of nine years. As in systemic blastomycosis, the primary lesion may be in the skin, but more often it is hidden and unknown. The lesions in the body, however, appear to be more widely disseminated than in blastomycosis. In coccidioidal granuloma, dissemination occurs by means of the lymphatics as well as by the blood stream, and the glands are often affected. The skin lesions are often similar to those of blastomycosis. All observers emphasize that the nodular lesions of coccidioidal granuloma cannot be distinguished from those of tuberculosis excepting that the oidium coccidioides may be found in the one instance and the tubercle bacillus in the other. Clinically, we find similar nodules, ulcerations, signs and symptoms of pulmonary involvement, irregular fever and other evidences of slow sepsis. At necropsy lesions are found in most of the internal organs. Pure cultures of the organism are readily obtained on glycerin agar and blood serum and in bouillon. In the body the organisms grow by endosporulation. When they are mature, having reached the size of from 5 to 30 microns in diameter, they rupture, throwing their endospores, as many as a hundred or more, into the surrounding tissue or circulation. In culture they undergo a complete metamorphosis, growing by branching mycelial threads with club-shaped endings and throwing out aerial hyphae. The disease may be readily reproduced in guinea-pigs by intradermal or intraperitoneal inoculation. It may be said that coccidioidal granuloma, when it becomes systemic, is invariably fatal and has not proved amenable to any form of treatment.

COMPARISON BETWEEN SYSTEMIC BLASTOMYCOSIS AND COCCIDIOIDAL GRANULOMA

Systemic blastomycosis is somewhat more chronic in its course and offers perhaps a slightly better prognosis. When not systemic, blastomycosis is frequently curable. Coccidioidal granuloma, on the other hand, soon becomes disseminated and ends with death. It runs a more active and virulent course. On account of the similarity in the nature of the two diseases and the character of the organisms, a number of observers have considered these two conditions simply modifications of the same disease. However, it has been demonstrated that the blastomycetic organism grows in tissue by budding and the oidium coccidioides is reproduced by a very distinctive endosporulation, and since it has been shown that culturally they differ in many respects, there can be no question that though they belong to the same fungus group they are undoubtedly different organisms. Not only must these two conditions

5. Dickson: Oidiomycosis in California, with Especial Reference to Coccidioidal Granuloma, Arch. Int. Med., December, 1915, p. 1028.

6. Posadas: Rev. de. Chir., 1900, xxi, 277.

7. Wernicke: Jour. de Microg., 1891, xv, 14. Centralbl. f. Bakteriöl., 1892, xii, 861.

8. Rixford and Gilchrist: Two Cases of Protozoan (Coccidioidal) Infection of the Skin and Other Organs, Johns Hopkins Hospital Reports, 1896, p. 209.

9. Ophüls: Further Observations on a Pathogenic Mold, Jour. Exper. Med., 1904, vi, 443.

10. Wolbach: Notes from the Life-Cycle of the Organism of Dermatitis Coccidioides, Jour. Med. Research, December, 1904, p. 53.

be differentiated from each other, but in establishing a diagnosis tuberculosis, syphilis, sporotrichosis, actinomycosis and anthrax must be eliminated.

REPORT OF CASE OF COCCIDIOIDAL GRANULOMA¹¹

This case is particularly interesting because it is the first and only one of its kind reported in the state of Missouri. N. T., negro, male, 28 years of age, single, sleeping car porter, entered Unit 2, service of St. Louis University Medical School, City Hospital, July 19, 1915. He had lived in Kentucky, Tennessee and Illinois, and in St. Louis since 1909. He traveled from St. Louis to Denver and back regularly but had never been further west. The patient's past history and habits were negative. His present illness began three weeks before his admission to the hospital. The symptoms were coryza, hoarseness and cough. He lost about 10 pounds in three weeks and always felt feverish in the evening.

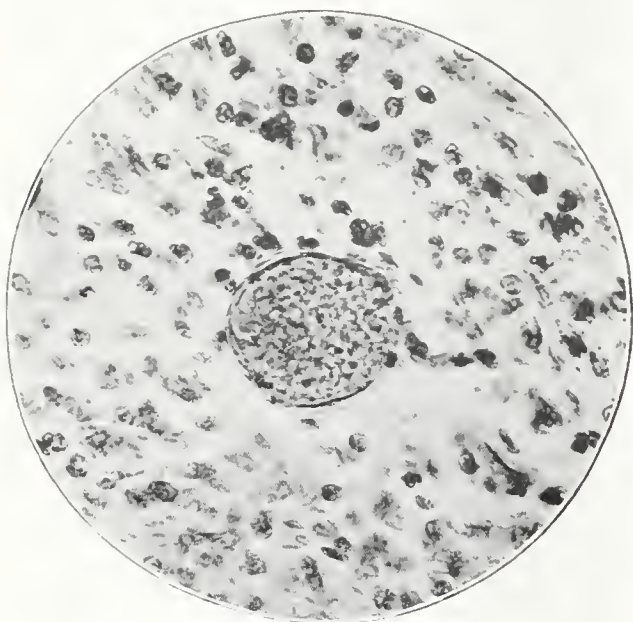


Fig. 1.—Large organism in granulomatous tissue from case of coccidioidal granuloma. $\times 1,000$.

Physical Examination.—He was well developed and well nourished. His throat was injected. The temperature was 100 F.; the pulse 100; the respiration 28 at the time of entrance.

Course of the Disease.—During the first few days in the hospital the disease suggested an infection of the upper respiratory tract. The first six days the temperature reached normal a few times but from that time on it became continuous, never again reaching normal. On July 30 a 2+ Wassermann reaction was obtained from the blood. Widal and blood cultures were both negative. On July 1 the patient called our attention to painful nodules in the calves of the legs. Following this, new ones appeared each day and within ten days thirteen in all were palpable. These were both subcutaneous and in the muscles, distributed over the front of the chest, abdomen, forearm, thighs and legs. They varied in size from that of a pea to that of a hickory nut. An attempt was made to remove a nodule from one of the pectoral muscles but it was punctured and was found to be an abscess containing slightly sanguinous, opaque fluid. Double-contoured, round bodies were found in the smears. On the same day the sputum

which had been of a white, frothy nature disclosed similar bodies in large numbers. Dulness on percussion over the base of the right lung posteriorly and other signs suggesting broncho-pneumonia appeared. On August 13 two nodules were removed from the left gastrocnemius muscle. Each node contained an abscess similar to the first one examined. Double contoured bodies were again found. A roentgenogram now showed extensive consolidation of a large part of the right lung and much generalized mottling.

From now on the patient rapidly grew worse; his respiration became more labored and his appearance more toxic. His mind remained clear until shortly before his death, which occurred on August 20, thirty-one days after admission and about fifty-two days after the onset of his disease. His temperature was always high and finally rose to 105.5 F. on the twenty-fourth day with a remission to 103.5. The pulse and respiration ran a corresponding course. Unfortunately a necropsy could not be obtained.

The patient was treated actively with large doses of potassium iodid and mercury without avail.

Laboratory Findings.—One week after admission his leukocyte count was 12,000. This is the average count in this disease. However in our case the leukocytes increased to 21,500, then to 29,000, then to 32,400 (when numerous myelocytes appeared) and finally to 62,400 on the day of death. The differential count averaged 75 per cent. polymorphonuclears. The erythrocyte count averaged 3,400,000. Hemoglobin averaged 75 per cent. There was no eosinophilia.

The urine showed a trace of albumin and a few hyalin and granular casts. Sections from the nodules for microscopic examination had the appearance of tuberculous granulomatous tissue. Numerous giant cells were found. Typical double-contoured bodies of various sizes were noted within the giant cells, some showing endospore, none showing budding (Figure 1).

A nodule was submitted to Dr. Charles Klenk for bacteriological examination. Cultures made by him grew within twenty-four hours. All the characteristics of this organism were demonstrated. Material from an agar slant was injected into the back of a guinea-pig intradermally. A nodule developed and grew in three weeks to the size of a small walnut. It fluctuated. Sections revealed numerous double-contoured bodies, similar in all respects to those found in the original tissue. Cultures also were identical with those obtained from the patient's nodules.

From the foregoing clinical and pathologic findings, this case can be readily classified as an undoubted case of coccidioidal granuloma.

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THE DIFFERENTIAL DIAGNOSIS OF SOME OF THE MORE COMMON TYPES OF PSYCHOSES*

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A correct diagnosis of the form of mental disorder by which an individual may be affected is a most important factor in the determination of the prognosis and the line of treatment to be

11. Lipsitz, Lawson and Fessenden: Case of Coccidioidal Granuloma, Jour. A. M. A., April 29, 1916, p. 1365.

* Read by invitation at the regular meeting of the Madison County Medical Society, held at Highland, Illinois, Sept. 1, 1916.

followed. To arrive at such an adequate diagnosis the physician must usually meet certain requisite requirements. More than in any other field an adequately ample and detailed history is a necessity in mental medicine. This is true, because we all invariably, though perhaps to a certain degree subconsciously, arrive at our estimates of personality by a process of comparison which is both objective and subjective in character. When we are called on to pass on the behavior of another person we compare such behavior with what we think our own and that of other persons would be when placed under similar circumstances. And then we set up for comparison the present conduct of the individual with that which a good history reveals to have been his past manner of action, his normal mental state. From these comparisons we are wont to conclude as to the degree of variation from this normal state which is evidenced by the mental disorder. After the history comes the personal contact with the patient, thorough, complete physical and special neurologic and mental examinations. The making of a careful physical examination in what appears to be obviously a purely mental case cannot be too strongly emphasized, and particularly true is this in those groups of cases which though fundamentally physical in origin, such as cerebral syphilis, arteriosclerosis and tumor, are often in the beginning apparently purely functional.

If we attempt to define what we mean by mind, even if with no greater universal satisfaction than has been achieved in many previous attempts, we will at least serve our present purpose by assuming that the mind is the organ by the functioning of which the individual adapts himself to his environment. Then a mental examination in the broad sense should take into consideration the quantitative and qualitative measurement of the ability for such adaptation possessed by the person in question. To make such measurement we must study motor reactions as expressed in conduct as well as psychic processes as determined by particular psychologic investigation. By a study of conduct, by inspection, in other words, we may learn much of value concerning a patient's mental state. From such observation one may often gain information as to the orientation and grasp of situations, the presence of hallucinations or delusions, the emotional status, whether one of elation, indifference or depression and as to industry, whether idle or busy with useful or purposeless activities. More specific examination will be required to investigate the origin and character of hallucinations and delusions; the condition of memory, attention and ideation; the power of reasoning and soundness of judgment. Not only the accuracy of memory, but the character of the amnesia should be carefully ascertained. The importance of this becomes

more evident when we recall that the memory defect found in a paretic or arteriosclerotic psychosis is essentially different from that met with in a case of delirium or dementia praecox.

It becomes easily apparent that such a complete history and examination cannot be made in a casual manner in the course of a brief visit, and therefore a period of observation of varying duration often becomes absolutely necessary before a sufficiently adequate and satisfactory conclusion can be reached. Not infrequently, to be sure, the patient presents such a distinct group of symptoms conforming so closely to type that for the purpose of diagnosis alone a lengthy examination is not always essential, though where feasible invariably advisable at the earliest possible moment. We need not be reminded on this occasion that the apparently easy case with its snap diagnosis is too often a source of the most unpleasant embarrassment and not infrequently of more serious consequences. Many times, even after most careful study, more than a symptomatic diagnosis is for the time impossible. But to hastily place all states of excitement under the rubric of "mania" and to class all depressions as "melancholia" is now-a-days utterly inexcusable and entirely futile and misleading. The physician might as well simply pronounce the patient "insane" and let it go at that, although the family probably knew that much before he was called. For example, we may have episodes of excitement with almost any type of psychosis—manic depressive insanity, dementia praecox, paresis, senile dementia, etc. However, in so far as the prognosis is concerned, the recognition of the underlying disease process, of which the excitement is merely a symptom, is of the utmost importance in giving a correct prognosis. To mistake the excitement or "mania" of a paretic for that of a manic depressive is bound to lead to inevitable error in the prognosis, and similar mistakes in other conditions lamentably preclude any adequate or proper treatment.

In general, it may be said that to arrive at a correct diagnosis of a mental disorder it is necessary that the individual be studied thoroughly from every angle in order that we may learn everything possible bearing not only on the present illness, but on the whole life of the patient. We must study the life history of the person with mental disorder in longitudinal section and not alone at an isolated cross section taken through the period of mental unbalance and upheaval. To accomplish this means effort and most painstaking care and research. The reward comes in the satisfaction derived from having made the effort pay by the accomplishment of the best possible results.

After this somewhat abstract and lengthy preamble on mental diagnosis in general we may take up some of the more commonly met with

difficulties in more concrete form. Within the limits of this presentation it is patent that it will not be possible to do more than indicate in what manner some more common groups of mental disorders occasion difficulty in differentiation without attempting to go far below the surface to dig out the details of specific situations. In the first place, probably should come the differentiation of a psychosis from a neurosis without entering the academic squabble as to the scientific psychologic differences between these two great groups of disorder. It is on this midground that we meet with what have come to be known popularly as borderline cases, often instances of great medicolegal interest and importance. I believe there is no item more important in arriving at a correct estimation of the mental ability of such individuals than a carefully prepared history leading up to a detailed investigation of environment and motives associated with the onset of the condition which presents itself for examination. In this group we have to deal almost invariably with more or less definite and distinct psychopathic personalities or constitutionally inferior mentalities which have reacted in an exaggerated and abnormal manner to a series of specific irritating situations. The individuals comprising this group are uncertain and unstable emotionally, asymmetrical or uniformly defective in mental make-up and react with hair-trigger ease to apparently slight and trivial provocations. It is in this group that we find many of our occasional offenders and criminals by passion. It is true, as well as not surprising, that in the fundamentally psychopathic material which comprises this group we find a fertile soil for the development and growth of veridical psychoses of more permanent and chronic nature. The psychasthenic, using the term in the sense of Janet, is not infrequently a source of difficulty in differentiation from a true psychosis. Obsessions and phobias, conduct anomalies, angst states and physiologic disorders often so present themselves as to closely simulate psychotic states. But it is extremely rare that a careful study during a sufficiently extended period of observation will not succeed in recognizing the essential character of the underlying mental mechanisms. It must not be forgotten, however, that the so-called neurasthenic condition is often but the introduction to a more profound mental disintegration. The early stages of paresis and dementia praecox too frequently escape attention under the disguise of neurasthenia only to develop later into the more easily recognizable symptomatology of a chronic psychosis.

Another group of cases in which a correct early diagnosis is of paramount importance because the therapy depends directly on it may be spoken of as the symptomatic psychoses. We

include in this group those mental disorders which have their etiology in some endogenous or exogenous agent acting indirectly on the brain functions through the production of disease or disorder in other organs. Thus we have the deliria of such acute diseases as typhoid, pneumonia, erysipelas, acute articular rheumatism, scarlet fever, influenza and malaria; the confusional states associated with less specific infectious, toxic and exhaustive conditions, the uremia of nephritis, the hallucinatory paranoid excitements incident to cardiac disease, the angst states with Basedow's disease and paranoid conditions often found in anemia. The absolute necessity for the early recognition of the underlying physical disease hardly requires emphasis because it should be evident that the treatment is primarily that of the condition of which the psychosis is merely symptomatic. However, it cannot be said that the diagnosis of these symptomatic psychoses is always a matter of ease. A not uncommon error is to mistake for a symptomatic disorder an endogenous psychosis, such as dementia praecox, which an infectious disease or exhaustive state has brought into activity. For this reason care must be exercised when a psychosis develops in the course of typhoid not to jump too quickly to the conclusion that it is directly dependent on the infection itself. Dementia praecox, manic depressive insanity and paresis may all be so closely simulated by a symptomatic psychosis that considerable difficulty may be experienced in the differentiation. From catatonia the differentiation is often possible only after a prolonged study of the case. The manic depressive psychosis less often offers difficulty as the confusion, disorientation and delirious features are far too prominent to be a part of the symptomatology of this psychosis. The neurologic examination, the pupils and tendon reflexes, together with the serologic and cytologic investigation of the blood and spinal fluid, will in most cases discover a case of paresis.

The last group of cases which we will have opportunity to consider are those which owe their origin to syphilis. The importance of the rôle of syphilis in the production of mental disorder has been variously estimated, but at all events it is certain that this infection is one of the most potent etiologic factors in mental medicine today. When we think of syphilis from a psychiatric standpoint we are perhaps too prone to have in our mind's foreground only the one condition, paresis. This is improper and at the same time unfortunate. There are a host of mental disorders, other than paresis, due to syphilis, which will either pass unrecognized as such or be mistaken for paresis. The unfortunate element appears in the fact that many of these, unlike paresis, are amenable to specific medication and often yield favorable results

from adequate and appropriate therapy. To mark every syphilitic psychosis as paresis is to brand the patient from the beginning as irrecoverable, and treatment under such conditions, if given at all, is likely to be but a half-hearted attempt.

The syphilitic psychoses, and we are not justified in speaking of a characteristic syphilitic psychosis, may present themselves as many varied symptom complexes, dementias, excitements, depressions, confusional and paranoid states all may occur on this basis. Dementia is probably not so prominent a symptom as has been supposed, because in many cases the recovery from a syphilitic psychosis is so complete that our present methods of examination fail to reveal the intelligence defect. In paresis, on the other hand, although symptom complexes at times occupy so prominent a position in the disease picture as to have given rise to such clinical types as the excited, depressed, expansive and demential form of paresis, there is no doubt but that the dementia is fundamentally the important feature, while the others are but accessory symptoms of secondary moment.

Certain criteria have been set up to aid the recognition of psychotic states originating on a syphilitic basis. First, in the course of the disease are seen distinctive features: the long duration, the varying progress and the long remissions. There is the preservation of the personality, with retention of a fair degree of autocritic ability. Orientation is not greatly impaired as in the generalized deteriorating psychoses, such as senile dementia and paresis. Memory defects, especially for recent occurrences, in some cases are quite prominent. A diminution in attention may no doubt explain in part this defect, and also the observation that these patients, as a rule, do not acquire new ideas. The defects occur in lacunar fashion and affect certain spheres more markedly than others, the demential process being more elective in its attack rather than lowering intelligence as a whole. The affect is possibly capricious, unstable—depression, excitement, apathy and indifference may alternate rapidly. Somnolent, drowsy, semicomatose conditions of consciousness are not uncommonly observed, from which, after varying periods, the individual may emerge into an approximately normal state of uncertain duration—a remission. Hallucinations and delusions may exist, the content of the latter being not infrequently of a paranoid character, the hallucinations often lending support to the persecutory beliefs. Hallucinations are much less frequent in paresis and their presence should always suggest cerebral syphilis.

Accompanying these psychotic abnormalities are to be noted the many motor disturbances which not infrequently follow in the train of

variously located focal lesions. The neurologic examination, however, may or may not be of assistance and often is not. The Wassermann reaction and the cytologic and chemical examination of the spinal fluid are in many instances of distinct value and especially the Lange colloidal gold reaction with the spinal fluid. The latter is the most valuable single chemical test which we have yet been given in the recognition of paresis. However, the differentiation of paresis and the syphilitic psychoses is certainly not always easy and all too frequently is impossible until the necropsy. On this account, from the viewpoint of therapy, it is always advisable to treat energetically every patient in which a diagnosis of paresis has been made with the possibility in view that it may be a case of cerebral syphilis and the patient thus be given the benefit of the doubt.

In the foregoing no attempt has been made to consider all of the psychiatric possibilities from the viewpoint of differential diagnosis or even to delve far below the surface in the presentation of the groups which have been brought up for discussion. Anything further would have been obviously an impossible and inappropriate task for this occasion. The groups which have been selected make up a large and important part of psychiatry, and it has been the intention to present these in such a way that the information may be of use and value to the practitioner who is too busy to become intimately familiar with all the specialties in medicine as they exist today. It is my hope that this purpose has in the slightest degree been accomplished.

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CARDIAC INCOMPETENCY*

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This paper does not deal with any specific disease, but a condition, the result of one or a number of diseases, and when this condition is recognized, it starts the physician on a search for the cause, the discovery of which is of prime importance in its proper prognosis and treatment. No physician or surgeon who has a patient with a severe pain in the abdomen would feel that he had done justice to his patient, to say nothing of his own reputation, if he failed to discover its cause. Abdominal pain is a fixed, definite symptom. Cardiac incompetency is a group of symptoms, and in order to make a systematic search for the cause of these symptoms, let us briefly review the structure of the

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heart with its functions and the manner in which it acts.

Roughly speaking, we may consider the heart as a four-cylinder, muscular pump, the cylinders working in pairs with valvular connection of perfect mechanism, and the beats kept in regular firing order by the vagus and sympathetic nerves, together with the timer or syno-auricular node, which is the real pacemaker of the heart. The function of the heart being to supply, by means of the arteries and capillaries, a continuous stream of blood to every organ of the body, including itself, we must consider it necessary not only for the muscles, valves and nerve supply of the heart to be in perfect condition, but all other organs as well, for any organ being diseased means a readjustment in the circulatory apparatus equal to the amount of discord produced by the given disease, and whether a given disease will or will not be manifested on the heart depends on whether the disease is or is not sufficient to use up the reserve power of the heart.

As an illustration of this we will represent the heart's power in figures (as I once saw Dr. Ochsner do in other diseases, and the comparison is so good I cannot help adopting his plan). Say the heart's power is represented at 100; that the body demands at rest 60, leaving as a reserve 40 for its working force. Then a disease, say arteriosclerosis, begins to make demands on the heart, say 20. Then let us see the result. We have 100 to start with, minus 60 for the body's demand at rest, minus 20 for the demands of the arteriosclerosis, which leaves only 20 for the work that the individual can accomplish. In other words, the patient's cardiac ability has been reduced from 40 to 20, or one half. Now, suppose the patient attempts his usual work. His 40 reserve is already reduced to 20, which is soon to be used up. Then his exhaustion begins to show its symptoms, which to a certain extent depend on the particular case as to its exact symptoms, but in general the early symptoms are about as follows:

1. The patient notices that he begins to tire more easily as compared with his normal condition, and here let us say that in arriving at a conclusion as to the patient's physical power or his cardiac power, it must be compared with the patient's own condition when normal, as each patient's heart, like all his other faculties, has its own standard, and disease or disorder is shown by departure from the individual's former healthy condition, and should not be compared with the endurance of some other individual.

2. The next symptom complained of is usually a palpitation or an increase in the patient's pulse rate or some dizziness, dyspnea, precordial distress or slight nausea, and if still further demands, then the objective symptoms begin to appear, such as edema, enlarged liver,

râles in the chest, then inability to lie down, precordial pain, pain down the arms and side of neck, and diminished secretion of urine, all of which are late symptoms, the presence of which show that the patient has passed the period for best results from treatment.

Let us now consider the diseases producing incompetency:

1. Acute infectious diseases resulting in acute endocarditis, myocarditis and pericarditis.
2. Chronic, valvular disease or myocardial degeneration resulting from the acute disease.
3. The arrhythmias.
4. Arteriosclerosis.
5. Specific conditions.
6. Toxic conditions, as exophthalmos.
7. Diseases of the kidneys and liver, and tumors.
8. Poisons, such as tobacco and alcohol.
9. Anemia.
10. Heart strain or overexertion.

The diagnosis of an incompetency having been made and also the disease producing it found, we can arrive at something definite in the line of prognosis and treatment. The prognosis is one thing in which the patient is especially interested and one in which the physician must be very careful. It will first depend on the curability of the disease which is contributing to or which has caused the cardiac trouble.

In the acute infectious diseases after the symptoms of the disease itself have all subsided, the condition of the heart is to be considered as the main point in the prognosis. This would depend on the power the heart has after all the acute conditions have subsided and how much hypertrophy has developed or has been necessary in order to keep up the cardiac force. A patient who has recovered from an acute, infectious disease, and who has had some inflammatory condition of the heart, and has recovered sufficiently that his power is normal, and the heart is not enlarged or very slightly enlarged, and who has not a progressive, valvular lesion, as, for instance, a stenosis, has the prognosis of practically a normal person. In the event the disease has been such that there are liable to be recurrences, as is often seen in cases of rheumatic individuals, the cause of the infection should be sought and removed. In case of acute contagious diseases, aside from diphtheria, the condition is past, and one caution in regard to a positive prognosis is to wait a sufficient length of time so that any disease that may have been started in the valves, and has not fully shown its effects, may develop.

In the valvular disturbances resulting from infectious diseases, after sufficient time has elapsed for compensation to be perfect and the size of the heart being noted, if there is no enlargement or a very slight enlargement of the heart, it may be considered that the valvular disturbance is of minor importance. Where

there are stenotic lesions or aortic regurgitation, hypertrophy will be inevitable, and the cardiac power necessarily impaired. Consequently, this patient will have to live an easier life than normal. In mitral regurgitation, where there is only a slight enlargement of the heart, the prognosis is almost that of a normal individual. Valvular lesions of the right side of the heart are quite rare. The prognosis in these is the same as that of the left-sided trouble.

Syphilitic infection of the heart particularly affects the aortic region or the arteries, and in this disease the general condition of the patient is to be looked after and the disease treated, the heart itself being treated as any other non-compensating condition. And so on through all the different diseases disturbing the heart, the prognosis must depend on the curability of the disease and the amount of injury that has been done to the heart as shown by its size and endurance.

TREATMENT

In treating the acute inflammatory conditions of the heart, the infection which is producing it is the prime factor to be treated. In regard to the care of the heart itself, everything must be done which will relieve it of any work; absolute physical and mental rest. All sources of exertion, all forms of excitement or worries should be carefully attended to, and the patient made as comfortable as possible and free from all suffering. The diet should be light in character; frequent feedings but never large meals; sleep must be attended to; and the organs of elimination kept in as good condition as possible. Then if the patient still shows a failing compensation, small doses of digitalis may be tried, but in general the heart muscle cannot respond more than it has already, and in the presence of fever the action of digitalis is uncertain. But in case the pain or precordial distress is increased after the administration of digitalis, or vomiting or nausea is induced, it is necessary to discontinue its use. Where there is evidence of marked right-sided engorgement of the heart, bleeding may give temporary relief and start the patient gaining. The precordial discomfort and throbbing of the heart may sometimes be relieved by the use of ice bags, and we must be content in the further treatment of these with the general principles laid down in the care of failing compensation and direct our efforts to the infection that is producing the trouble. This can be made the rule in the treatment of all the acute, inflammatory conditions of the heart.

I may cite briefly two or three instances of acute inflammation of the heart. One, a child, who had a recent attack of rheumatism, developed the usual symptoms of an incompetent heart, with fever and irregular pulse and dila-

tation. This patient was able to rest under general care of incompetency without the administration of any stimulants, and her cardiac tone was gradually built up.

Another patient with a history of repeated tonsillitis, who had an old mitral regurgitation, during the puerperal state developed a marked grade of cardiac incompetency with acute inflammatory condition of the myocardium and endocardium, marked anemia, phlebitis in the arm, and such marked dyspnea that she was compelled to be propped up in bed; also marked precordial distress, rapid pulse, cyanosis, cough and edema. With the withdrawal of a small amount of blood, administration of digitalis and rest by means of an occasional dose of morphin, she quite readily regained her cardiac compensation.

Another child who had had tonsillitis several days without medical care, and showed on first examination multiple arthritis, edema of the limbs, enlargement of the liver, rapid, irregular heart, to-and-fro friction rub at the base and marked dilatation, showed no response to the rest, ice bags or stimulants and died suddenly on the fifth day.

I do not think there is any class of cases in medicine in which the hearty cooperation of the patient and the accurate advice of the physician will do more in prolonging the length of life and the comfort of the individual than the chronic, valvular and myocardial diseases in their early stages. Surely no one doubts the advisability of the early diagnosis and the immediate care of a tubercular patient. Neither does he doubt the prognosis of the advanced case, and this, I think, is equally true of the cardiac cases. Unfortunately for the patient and for the physicians, the impression prevails, especially among the laity, that if a patient has heart disease he is doomed, and that nothing can be done that will in any way influence the inevitable with him, and he drifts on without any advice and unaware of whether his mode of living is compatible with his welfare or not.

Then, what should be the physician's attitude with this patient? First, the physician should make a complete examination of the patient to ascertain the presence of any diseased condition in any part of the body, and if any, its proper treatment should be instituted.

Next, ascertain the cardiac power of the individual, and this can be done by finding out what the patient can do without evidence of cardiac strain. When this is found, compare it with what is necessary for one to do in his or her occupation. If the cardiac power is not equal to the task, then it should be built up gradually by increased exercises, if possible, and if it is unable to build him up, a different occupation should be recommended.

Next the patient should be told whether what he is doing is within his cardiac power or

whether it is detrimental to him. He should also be told that by injudicious methods of living or working he can injure his heart and markedly interfere with his longevity.

When the patient's power and his occupation agree, he should then be taught the early symptoms of overstrain, which are usually a sense of fatigue in doing his usual work, a slight dyspnea or gastric distress and dizziness, precordial distress and sensation of constriction in the chest or palpitation. Whether this be due to overwork or to the beginning of some diseased condition, it calls for the advice of a physician. In the event this condition appears, the patient must do less work or rest and allow his cardiac power to build up. Unfortunately, this is the point where the cardiac patients' troubles begin, and seldom is their employment such that the demands do not call on them to do a certain amount all the time. In the event the patient begins to decline to the extent that his cardiac power becomes less and cannot be restored by rest and care, so that he cannot resume his former work, he either has come to the place where he must do less or else do it at the expense of the later end of life. As this advances still further and reaches the stage of failing compensation, when periods of rest must be taken, and if this does not restore its power, the administration of digitalis or strophanthus must be instituted, the physician noting at all times whether there are any other conditions responsible for the patient's decline. When the patient reaches the stage in which he is suffering from edema, dyspnea and cough, and all the symptoms of an advanced stage of decompensation, his first breakdown can almost always be overcome, but from this on, more care and a lower level of life will have to be led.

Associated with these chronic myocardial conditions or valvular troubles, may also be one or the other forms of an arrhythmia, and a large percentage of the cases have an arrhythmia. McKenzie states that in from 50 to 60 per cent. of all hearts failing in compensation, auricular fibrillation is found. In my personal cases nothing like this percentage has been found, and of all the arrhythmias, extrasystoles have been by far the most common, auricular flutter, paroxysmal tachycardia, heart block, complete or partial, being extremely rare cases in my observation. Failures of compensation are all to be treated by the administration of digitalis. Its action on complete heart block is supposed to be entirely on the heart muscles, as its rate is not influenced by the administration of digitalis, and in all cases in which there is a rapid heart action, whether they are yet showing the failure of compensation or not, the cause of the rapidity should be looked into and corrected, for if left it will sooner or later bring on heart exhaustion. Cases of auricular fibrillation are particularly those in which it is necessary to keep down the

rate. The absolute disorder in the rhythm, when rapid, soon exhausts the heart and can be easily controlled in most cases by administration of digitalis. The usual plan of treatment in these cases is that of rest, and if within a few days' time the rate does not subside, administration of 15 m. tincture of digitalis four times a day, until the rate is brought below 70 is indicated. It is then discontinued, and if the rate rises, it should again be given in small doses, and in this way the amount found which is necessary to hold the heart to the low rate, which also improves the irregularity. This class of cases is typically the one in which the most marked results are to be found in the use of digitalis. Some of these patients find it necessary to take small doses of digitalis all the time, or at intervals when they detect the pulse becoming more rapid. A caution to be observed in administering digitalis is to watch for the symptoms of digitalis poisoning, which are first nausea, headache, coupling of the beats and precordial distress. When these symptoms are found, administration of the drug must be discontinued.

In cases of toxemia, as, for instance, from goiters, etc., if there is a failing compensation, the treatment of the disease which is producing it is of first importance, and where there is a lack of compensation, digitalis may be tried.

The same may be said in regard to cases of anemia, either primary or secondary, and to nephritis or arteriosclerosis—all should be treated according to the disease and the circulation maintained by digitalis.

In conclusion, I wish especially to call your attention to the following:

1. The early symptoms of failing compensation.
2. The importance of finding the cause of incompetency.
3. The prognosis.
4. The careful instruction of the patient as to the mode of life he must lead in order to stay within his cardiac power.

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THE NEED OF A COUNTY HEALTH OFFICER *

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Lord Beaconsfield once said: "The public health is the foundation on which reposes the happiness of the people and the power of the country, and the care of the public health is the first duty of a statesman." The medical profession will certainly agree with this, and we

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will have to admit that either statesmen have been very scarce or that they have sadly neglected their duty. When we make a survey of the whole state and learn what has been done to safeguard the health of the public we must conclude that this foundation of the happiness and of the power of the state is sadly in need of repair.

The metropolitan papers are all full of the doings of the health officers, their works of sanitation and their health ordinances; but it all concerns the city. Scarcely anything is ever said about the small town and the country districts, because nothing along the line of the newer and modern idea of sanitation is being attempted in the small towns and country districts. It is the purpose of this paper to urge on the medical profession to extend the effect and the benefit of this newer sanitation to a class of people who have not received their share of our thought and protection.

In the cities the boards of health have been created and directed by the best medical minds that can be secured. Health ordinances have been passed covering every phase of sanitation, and a well-equipped police force is at the disposal of the health officers to enforce them. Free medical dispensaries are at the service of the people and elaborate and well-equipped hospitals are maintained to care for the city's sick. Personal hygiene and sanitation are being taught and demonstrated in the public schools; medical inspection of the public schoolchildren is made regularly and every precaution known to medical science for the public's physical welfare is being adopted. But for that great portion of the people living outside of the cities very little has been attempted and scarcely anything at all has been done. In this great field of preventive medicine, including hygiene, sanitation and education, the rural population has made very little advance. A large part of these people are no further advanced than they were fifty years ago. The people in the small towns and villages are no better but are, in many respects, worse off than the people on the farms. Their greater poverty and the proximity of their homes make the condition worse. Only fresh air, sunshine and their isolation of the country population keep them from self-destruction.

The sanitation in the cities is often bad even where there is an active board of health, and the different organizations, such as the civic league, the women's clubs and the boy scouts, are all interested and help to enforce the ordinances. It is bad for two reasons: The average citizen does not fully realize the dangers of unhealthful surroundings, and it usually costs something to comply with up-to-date sanitary rules. If the people in the cities have to be forced to comply with these regulations, what can you expect of the rural citizen where there is neither law on

this subject nor an officer or organization to teach it and enforce it?

The country home is the worst fly-infested place anywhere on earth. It is because the manure lies at his barn door from one year to another. His closets are built according to his whim, with the least expense possible. There are no regulations in regard to hog-pens, cow barns, stables, wells, cisterns and other conditions where danger lurks. But worse than the farm home is the home in the small village, whether incorporated or not. The homes in mining camps, where 200 or 300 people often live closely together, and in the suburbs of larger towns, are no better. In these there are no health regulations, yet the people live as closely together as they do in cities. Most of these houses are occupied by renters and the owners spend as little on privies, cisterns, wells and outhouses and the surroundings as they possibly can. After these premises have been occupied for a few years, the conditions become intolerable. Cistern tops become decayed, cow barns and stables fill up, privies run over, and the owners generally refuse to screen their houses. The occupants must live in these conditions or move, and when they do move it is like jumping from the pan into the fire.

The last quarterly report of our state board of health contained a letter from a rural school-teacher. In that letter she describes the bad conditions of the privies furnished by the school board. Our state board also published their reply to the teacher, which condemned the conditions and the directors in rather strong language. Suppose that I should tell our state board that just outside of my own town there is a mining camp of about sixty or seventy houses, rather close together, and practically every closet in the camp is as bad as the ones described in their report? Our county has many coal mining camps in it and there is no reason to believe that one is much better than another. Inside of the city where I live it would be easy to find 100 closets as bad as the ones the board described, and this town has a board of health that is showing some signs of life.

Take an open closet, full and running over, and a stable with stacks of fresh manure to breed flies, and you have the complete requirements to spread typhoid, all kinds of summer disease, and in a large part of the homes where there is no sewerage and no control of these conditions, whether in town or out, you will find these two conditions.

There is no law in Missouri requiring any one to report a contagious disease when it exists outside of a city's jurisdiction, and no quarantine is established in such cases until rumor in some way reaches the proper officer.

Rural schools often have to be closed because the quarantine is not started in time and con-

ducted properly. A man in the country may leave a dead animal unburied anywhere on his own land, just so it is not in a running stream, and no one has authority to make him move or bury it, be it ever so close to another man's house. Last summer in my county two neighbors were not on friendly terms. One man had a horse that died and he dragged the animal to a place on his own farm just across the road from the other man's house and left it unburied. The other man came to town to see the prosecuting attorney and the health officer to see if he could not be made to move it, but there was no law by which it could be done, and he had to face the music as well as the odor.

The cities and incorporated towns have the means in their hands by which all such conditions may be corrected, but only the larger cities are using these means. Most of the small towns have neither health ordinances nor health officers, consequently they are in just as bad condition as the country. But the country is without any health officer, and there is no law under which the so-called present county health officer can do anything but quarantine contagious diseases, and no one is compelled to report these to him.

The present law creates a state board of health and subsidiary to it a county board of health. Most of the work of sanitation will naturally fall on this county board because it is on the ground where the work is needed to be done and face to face with the conditions. This county board is so near the zero mark in its purpose and work accomplished that very few people, even the doctors of the county, know of whom it is composed. It is composed of the three county judges and some physician whom they appoint. The county court usually enters into a contract with this physician for a definite sum of money to do the practice necessary among the inmates of the county poor farm and the county jail, and to pass on insane cases that come before the court for commitment to the various state hospitals. This is practically all the physician ever does except when some community demands of the board that they quarantine some contagious disease that is prevalent in their midst. Every one knows that at the present time the quarantining of disease is a very small part of the work of any board of health or health officer. These county judges are nearly always farmers, and modern sanitation is a subject of which they know practically nothing. Their idea of sanitation and of boards of health is the old one that has been discarded long ago. That old idea was this: That when a health officer had quarantined a contagious disease and had gone through some form of fumigation after it was over his entire duty had been performed. Consequently, these judges will not

permit the county health officer to do anything more and refuse to pay the bills when he attempts to do anything more on his own initiative.

Let me illustrate: An epidemic of typhoid broke out in a coal camp consisting of twenty-three families. It was about 7 or 8 miles from my home. Two physicians practicing in the camp asked me, as county health officer, to meet them there and see what could be done. There had been three deaths from the disease and there were still three or four other cases in the camp. I met the physicians and we went over the camp. It was located on a hill with the houses fairly close together. Every closet we examined was very open, full and running over, and above the ground; stables and hog pens were everywhere; chickens, geese and ducks were scattered about. At the foot of the hill were two springs, the only source of drinking water for the twenty-three families. Two days before my visit one of the doctors had taken two dead rats from one of the springs. We took some of the water and sent it to the state board of health for examination, and the report came back that it was contaminated. Nothing else was expected. Afterward I met a committee from the camp and suggested a plan by which they could get good water.

When this call came to me the county court was not in session, and as the members lived in different parts of the county, I could not consult them. So the work was done on my own initiative. I presented the court a bill for \$6, but they refused to pay it. Their reason for not paying it was that they had no authority to do so and it was not the board's affair. Think about it! Not being the county board of health's affair! These families were all poor renters and if they moved it would deprive them of employment. Yet three had died and three or four more were in a fair way to die, and still no end of trouble in sight, all because a non-resident company would not furnish pure water for their renters and employees, and the county board said it was none of their affair. This is a fair sample of the work of the present county boards of health of our state. Such conditions and the need for something better could be multiplied indefinitely. But this is as much as space and time in this paper will permit.

This leads up, then, to the question: What is the solution of the problem? My answer is, to change that part of the law in regard to the county board of health and in its stead create a county superintendent of health or county health officer. Define his duties so they will embrace the newer and larger ideas of sanitation, and give him the power to enforce them in all matters pertaining to public health. Make him an educational and advisory officer in all such matters for the whole county, town and

country included. He should be entirely free from a narrow and parsimonious county court.

Among his duties should be such as these: He should look after the sanitation of all public schools outside of incorporated towns; all contagious diseases should be reported to him by the attending physician or any one having knowledge of them; he should see that they are properly quarantined; he should say when to close schools on account of such epidemics; he should see that all cases of tuberculosis are properly controlled; sanitation of mining camps, small villages, suburbs of larger towns, disposal of dead animals, drainage and all such should be subjects of his intelligent regulation. In his educational duties he should have model closets, cisterns, wells, dairies and drainage systems to propose and show to all who are interested. He should also maintain a general system of education and all subjects pertaining to good health.

Here is a great and growing work to be done and one that is sadly neglected. Some one that is competent and on the ground in each county should be placed in charge of this work and given authority to do it. We have a prosecuting attorney in each county, superintendent of public roads, superintendent of public schools, and a man at the head of each department of our county affairs. Why not a superintendent of public health in each county? Our health is certainly as important as our roads or our education and needs to be safeguarded as much as these.

Some one may ask if this would not be doing the work of the state board and would render it useless. It would certainly do neither, nor is this paper any criticism of the state board of health and its work. There is a great work to do outside of anything a local officer could do which would keep the state board employed. The state board would be the directing force of all the local officers and the source of information on which the local officer could draw at all times. He would be the field officer and the state board would be the directing force.

The state of Missouri is a large place and seven men, six of whom work without pay, could hardly be expected to look after the sanitation of the whole state. I have lived in this city thirteen years, and the state board has made one visit to this town in all that time. I am sure that many towns and communities in the state have never received a visit from any member of the state board in all their history. Is there any one who believes that these communities have never needed a health officer? The people call the state board only in cases of severe epidemics or extreme cases of bad sanitation. But if there was a medical officer on the ground whose duty it is to give advice and look after these matters and he had the power to

enforce sanitary regulations, the people would soon learn to consult him and he would be employed most or all of his time. The state board may send out literature over the country in their effort to educate the public, but the people want to talk face to face with some one in authority and see the work demonstrated. Such talks and such demonstrations, backed up with authority to compel action, will bring results. Then these epidemics resulting from contagion and bad sanitation, to which the state board has been called, would become a thing of the past.

The laws of this state give the towns and cities the authority to establish boards of health and have not limited them in the extent to which they may go in protecting the health of their citizens, and in exercising these privileges the larger cities have built hospitals to care for the sick among the poor. The smaller cities and towns are unable to maintain a hospital free to the public, and, according to my information, very few towns are attempting any thorough plan of sanitation. Therefore, there is an urgent need in each county for an efficient and active health officer to stimulate and enforce this newer and broader sanitation and call the attention of the people to the neglect of the sick among the poorer classes.

The population of Lafayette County is between 31,000 and 32,000, and there is not a hospital of any kind in the whole county. Why should not the poor among the 32,000 have the benefit of a free hospital the same as the poor in the cities? Is the county so impoverished that it cannot afford it? No one in these times of prosperity of the country will think so. Hardly a week passes that every physician in the county is not called to treat a patient who should go to a hospital, but who is absolutely unable to pay either a hospital or a physician. The fault must be largely with the physicians in not demanding a solution of this problem.

The creating of a full-time county health officer would be a great step forward and in time would bring about the establishment of a county hospital. Some may say that it would not be practical, but today when good roads are being built everywhere and the movement sure to continue and roads get better as the years pass and with the automobile in general use, the plan is entirely practical, and with the hospital centrally located a patient could reach the hospital from any part of the county within an hour and a half. Today the burden of caring for this class of patients is thrown almost entirely on the medical profession, and it is too great for a few men to bear. As a result, many patients are not cared for as they should be and they never will be until the public realizes that this is an obligation that the whole people must

bear, and is not one for a few medical men of each community to bear alone.

A county health officer of high standing, either elected by the people or appointed by the state board of health, would be a greater recognition of the usefulness of the medical science, and it would bring harmony in many cases where discord and chaos now reign. With the benefit of his work plainly demonstrated to the public, the value of the physician's work would advance to a higher plane in the estimation of the people and his service would no longer have that doubtful value often given to faith healing or the prayers of a pastor or priest. It would bring stronger recognition of the value of science, and all pathies, isms and quackery would have an increasingly harder time to get along and would finally disappear.

Since writing this paper the *Bulletin of the American Medical Association* on public health came into my hands, and the discussion of this subject was so completely in accord with the ideas herein expressed that I think a few quotations from the Bulletin would be appropriate:

Dr. Chapin of Providence, R. I., says: "In the last analysis success of public health measures depends on the man on the spot. In other words, there must be local health officers to carry out the details of many of the most important measures of disease prevention. This is by far the weakest point in the whole public health system. The larger cities are doing fairly well. Most of the small towns are not. Most of the rural portions of the country are doing nothing."

Dr. J. W. Kerr, Assistant Surgeon General, U. S. Public Health Service, says: "In my judgment full-time local health officers is the sine qua non of present day health development. This applies especially to political units in the rural communities."

Dr. John N. Hurty of Indianapolis, says: "I believe in the county unit for all-time health officer, especially for our state. This is because the county is already the organized legal constitutional unit of government."

Many other authorities on public health service could be cited agreeing with the above, but time and space will not permit.

At the present time a few states have local health officers giving all their time to this work. Several others have proposed it, but the bill has met defeat in the legislature. The defeat of the bills might have been caused by the nature of the bills themselves. The legislature may object to the details and methods of putting this principle into force, but I do not believe that the state of Missouri would reject the principle if a well-constructed bill should be proposed and backed up by the entire medical profession of the state. The construction of such a bill had best be entrusted to a commission of health officers, practical laymen and legislators. But it is plainly the duty of the medical profession to see that such a bill is proposed and to work for its adoption until the bill becomes a law and its application is an established fact.

TETANUS*

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Tetanus is an acute infectious disease due to the bacillus tetani and characterized by tonic spasms of the voluntary muscles of the jaw and neck, pharynx and larynx and finally the muscles of the trunk, the spine and the limbs, in fact, the whole muscular system may become involved. Medical authorities of all ages have dwelled upon the many causes and conditions which render a person susceptible to the infection or disease and there has been a diversity of opinion as to whether this or that case was due to traumatism or whether it was an idiopathic case due to exposure of the susceptible body to this or that sudden change of temperature, overexertion and overindulgences in general. I ascribe to the theory that all cases are due to traumatism or a condition that is traumatic or pathologic, whether external or internal, visible or invisible, that there must be a susceptible area somewhere, that has been invaded by one of our deadliest foes; a foe that attacks us seemingly often without provocation and when least expected. It has almost depopulated hospitals in days of yore. It has attacked armies, even the braves of Napoleon it dared to destroy and was the vulture of the wounded in the armies of yesterday, and even today we are not freed of this destroyer of mankind.

The etiology is now fully understood and it is positively known to be due to that long, slender rod-shaped bacillus with an enlargement on one end which contains the spore, thus resembling a pin or drumstick. Cultures injected into animals readily reproduce themselves and cause tetanus. It has been further ascertained that the bacillus contains two virulent poisons and these produce the tonic convulsions, therefore demonstrating the toxic nature in producing the toxemic condition that follows and the effect upon the central nervous system, the medulla and spinal cord. If it was not an anaerobic germ we would have been devoured in ages past before antiseptics were known, as we find the habitat of the bacilli to be any and everywhere, but particularly in garden soils, putrefying liquids, manure of herbivorous animals, rubbish and in the dust of the streets and houses, therefore the danger of the bacillus finding an infection atrium in the slightest injury. Possibly more cases have resulted from a pin or needle prick or a small punctured, contused, unthought of or uncared for wound than has resulted from greater or more extensive wounds. Authorities record many cases developed in wounds that were cicatrizing or apparently healing perfectly and normally.

* Read at the Fifty-Ninth Annual Meeting of the Missouri State Medical Association, Excelsior Springs, May 8-10, 1916.

I stated in the beginning that any part of the body, internal or external, might become infected, but most infections are of the limbs which are most exposed. The disease is most prevalent in warm climates. Idiopathic tetanus, if you are pleased to accept the term, may be predisposed by or follow exposure to cold or sleeping on the damp earth or sudden temperature changes. Tetanus neonatorum may be caused by careless treatment of the child's external anatomy, umbilicus, etc. We find it developing endemically and epidemically in certain areas of the country. Statistics show that possibly two-thirds of all children born in the Hebrides Islands formerly died of tetanus neonatorum, and it was also very prevalent among the newborn of eastern Long Island. The pathology is virtually nil, in that there has been no constant postmortem lesion found. The toxins act most virulently upon the nerve centers of the medulla and spinal cord, producing inflammation of the gray matter of the cord or the neurilemma of the nerve or possibly degeneration, or there may not be a lesion found.

The earliest possible diagnosis being very essential in this disease, it behooves us in all susceptible cases to be on the alert for the premonitory symptoms, which are as follows: Languor, headaches, possibly slight fever, stiffness of the neck muscles or muscles of the part injured, fatigue in chewing, pains around the mouth, cramps in the chest muscles, etc., for several days possibly before the pathognomonic symptoms develop and thus it is too late for the most effective treatment. The masseter muscles become involved in a tonic spasm which locks the jaw and bars the natural road for sustenance and hopes for the successful treatment of all conditions.

The physiognomy has come and never to be forgotten. The immobility of the whole face, the wrinkling of the forehead, the retraction of the corners of the mouth, the sardonic grin—how horrid! The muscles of the trunk and spine and its most dreaded symptom, opisthotonos, and on and on until the whole muscular system may become involved, and from time to time convulsive seizures come on, causing the most agonizing suffering and with it heart and lung oppression.

The above symptoms should make the diagnosis reasonably certain, but no man can positively diagnose the affection until the characteristic symptoms have developed, although there is not much danger in confounding your diagnosis of tetanus with strychnin poisoning, tetany or hydrophobia or any other disease if you will remember the word of the laity, lock-jaw, and its symptoms.

The prognosis of this malady wants to be well considered before giving an opinion. Ever remember the more acute or quicker the onset of the symptoms after an injury the more dead-

lier the invader. Cases developing spasms or tetanus immediately following the injury will nearly all succumb in three or four days, while cases not developing for twelve or more days the mortality is less.

Localization of spasms to the muscles of the neck and jaw and absence of fever are most favorable, but prognosis is very grave where the muscles of the diaphragm and glottis are involved. Beware of the symptom of epigastric pain, for surely the diaphragmatic seizure is coming to close the scene.

Treatment and cure of tetanus has enlisted the ablest of our scientists in medical research of all ages, and I only wish that I had a panacea. My message is limited to the course of treatment that I have pursued and it has been selected from the endless number of remedies suggested up to this day and time. It is my pleasure to divide the course of treatment into four parts of principles.

The first principle is that all suspected cases of traumatic origin must be dealt with heroically, in that the wound should be freely incised or excised if possible and followed by thorough swabbing with pure phenol or injecting the whole surrounding tissues with pure phenol, followed with alcohol to prevent too much escharotic effect; then fill the wound with antitetanus powder or the liquid form and apply and keep an antiseptic wet pad over the wound for days.

Second principle of treatment is neutralization of the toxins by the free use of the antitetanus serum in large doses and of sufficient potency and as often as occasion and symptoms demand, as the toxins must be decomposed or neutralized, that the ganglionic cells and the nerves be freed of their load of virus they are carrying to the central nervous system. The mode of using this serum is by subcutaneous, intravenous, intraventricular, intraspinal and intra-endoneural injections, and each mode has its advocates. We also have advocates of the sulphate of magnesium injections to be used every two or three hours each morning until rest and composure are produced, as it is claimed that it has anesthetic powers affecting both the sensory and motor spheres. The third principle of treatment is to limit the number and force of the spasmodic seizures. It requires judicious perseverance in observing each and every symptom, that we may combat the deleterious effects of the convulsions. We should control and hinder convulsions by the use of chloral and bromid potash enemas and assist them by the use of morphin and atropin injections as necessary to retain the patient in complete composure or as nearly so as possible. I would have a competent nurse to guard over the patient and any premonition of a convulsive seizure would be checked by chloroform inhalations. I would be prepared and ever on the alert for any heart

or lung deficiency by having my hypodermic of strychnin and digitalis ever ready. I guard the kidneys and all the emunctories of the body and especially keep the bowels active by the frequent use of the normal salt solution by enteroclysis or by hypodermoclysis for the constitutional effect of relieving the blood of its toxemic condition.

The fourth principle is nutrition. Nutrition is of prime importance in the care of all these unfortunates, as the vitality must be supported by the most nourishing diet from the beginning to the ending, that our patient's vital forces may not ebb and succumb to the ravages of this most devitalizing vampire.

During all the bombarding by the invading foe and our countercharging, maneuvering and cannonading, our patient must be intrenched in a domicile freed of disturbing elements and every opportunity given that the sustenance of our patient be retained until sufficient antibodies have been produced and victory has come as the price of eternal vigilance.

Gentlemen, I have been unfortunate in having three cases come under my care and supervision, and I take pleasure in reporting them to you.

CASE 1.—M. W. J., aged 27, came under my supervision in 1892 with a decided attack of tetanus caused by a nail puncture in the bottom of the foot. Treatment was as suggested above; free incision, antiseptics and free use of chloral, bromid, chloroform and free catharsis. No antitetanus serum was used and patient made a complete recovery.

CASE 2.—Year 1914, Allen S., aged 3 years. I was called at the midnight hour to find the masseters rigid and all characteristic symptoms fully developed. If you will allow the term, I will call it a cephalic case. Cause, puncture by falling on a stick and jabbing it into left eyebrow or just below, producing quite a deep puncture. It was the tenth day after the injury that I was called. Course of treatment was in full as related in the above course and I will add that it was heroically used and patient fully recovered.

CASE 3.—Mrs. T., aged 64, year 1915. I had removed from the head, ten days previously, two small broken down sebaceous cysts, and the wounds had cicatrized well and I considered her progressing very satisfactorily until tetanus developed. I used all the above mentioned courses of treatment perseveringly, but one of my best friends succumbed to the horrid death of tetanus.

THE SURGICAL TREATMENT OF GALLSTONE DISEASE

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It is an axiom of cholelithiasis that gallstones once formed are never re-dissolved. This is a fact now universally accepted by internists and surgeons alike.

It is equally true that calculi, once formed, are only gotten rid of in two ways: First, by

the efforts of nature, causing them to pass through the common duct into the bowel, or more rarely, by ulcerating into the bowel through the abdominal wall. Secondly, by the adoption of surgical measures.

Whether or not internists will eventually discover methods of sterilizing the liver fluids, thus preventing the separation of salts and the formation of calculi remains for the future to determine. The very recent work of Rosenow, in causing such lesions as appendicitis and gastric ulcer in dogs from cultures obtained from the floor of gastric ulcer in human beings goes far to suggest, indirectly, that means may ultimately, and perhaps soon, be found that will prevent many of these lesions. At present, however, we are confronted with the fact that if calculi once formed are not removed they remain ever a menace to the patient as tending to aggravate infections, causing injury to the liver substances and favoring the formation of cancer. It must not be inferred from this that we believe every gallstone to be an active menace to the patient's life, as we know many of them are so nearly inert that they escape recognition. Where, however, gallstones give rise to recognizable symptoms, we believe that they become definitely surgical lesions.

Success in gallbladder surgery demands the utmost attention to detail. It may be said here, as in all other surgical work, that there are practically three stages in every operative procedure: First, the pre-operative treatment; second, the operation itself, and third, the post-operative treatment. The great importance of the first and last have not been fully appreciated.

The preparation of the patient for a gallbladder operation should be most carefully considered. The exact state of the urine and blood should be ascertained. The blood should be tested as to the hemoglobin estimate, its pressure and coagulability.

Some of these cases should be given treatment before operation with a view to preventing hemorrhage as a complication in cases where coagulability is delayed.

Acetone in the urine is a matter of much importance as indicative of real danger from occurrence of acidosis following operation. A case of this kind demands exceptional care and pre-operative treatment. We believe careful attention to diet should be instituted a few days before going to the hospital, and in the twenty-four hours prior to the operation, patient should be given, by proctoclysis, two or three quarts of a 3 per cent. solution of sodium bicarbonate and glucose.

At operation every detail should be adopted to prevent shock. It seems to me that with proper care and pre-operative treatment carried out in this way, and with the operation performed under the gas-oxygen anesthesia of Crile, plus his anociassociation by blocking the

nerve impulses from the injured area with a weak solution of novocain and adrenalin, we secure immunity from shock to a much greater degree than where ether is used alone. I have used this method in a number of gallstone cases and am thoroughly convinced as to its value.

The present status of surgery of cholelithiasis deals with the gallbladder, the ducts, the pancreas, and the resultant secondary processes.

The most frequent seat of gallstone disease is the gallbladder. It is estimated that in about 80 per cent. of cases the gallbladder alone is affected. Here you have conditions most favorable to prolonged infection—a pent up cavity filled with albuminous fluid with only a narrow outlet. The introduction of germs completes the factors needed for infections of all grades of severity.

It is a well established fact that the gallbladder does not play a vital rôle in the economy—a fact of the most serious importance when considered from the standpoint of modern surgery.

There are two ways of treating this disease affecting the gallbladder. First, it may be done by removing all calculi with drainage; and second, by removing the gallbladder with secretions and stone intact.

For many years the tendency was to incise and remove all calculi, and drain wherever possible. At the present time, the pendulum has swung very decidedly to the opposite extreme, so that now some of our most experienced surgeons hold that in all cases of cholecystitis with or without stone formation, the gallbladder should be removed. There can be no question that in cases of this disease where stones have repeatedly tried to pass through the duct and have led to much thickening, it is best to remove the gallbladder. This applies to sacculated and thickened gallbladders of all varieties. If left, they become a source of annoyance and often act like a foreign body. They lead to adhesions and discomfort and patients very often return for a secondary operation.

Another factor that must not be forgotten in gallbladder irritations is the tendency for malignancy to occur. This I have found in two of my cases, and roughly it may be said to be found in from 3 to 4 per cent. in all cases. From this it will be seen that the mortality from cancer alone is greater than from gallbladder operation. On a recent visit to the Mayo clinic, I did not see a single gallbladder opened and drained. In all cases, without exception, cholecystectomy was done.

The mortality of operations on the gallbladder varies according to conditions and in various clinics. In simple cases it is about 2 per cent. Maurice H. Richardson has stated that it is much safer to remove a stone from the gallbladder than it is to trust to its passing through the ducts into the bowel. Whether the

Mayos are right in advising cholecystectomy in every case of diseased gallbladder, with or without calculi, remains for increased experience to decide. There is no question, however, of the tendency of a diseased gallbladder to form adhesions resulting in a condition that demands removal at a subsequent operation. There can be no question that a gallbladder thickened and lusterless should be removed, and the only possible point is whether or not one that is functioning is best retained.

In cases where gallstone disease invades the common duct, new and vital factors enter into our consideration. Here we have an obstructing disease of the only channel that conveys secretions from two vital organs. The duct lies deep in the upper abdomen in close connection with the large blood vessels, and is often buried in adhesions of the most dense character. The common duct is involved in one out of every five or six cases of gallstone trouble. According to Brewer, in 67 per cent. of the cases the stone will be found in the duodenal extremity; in 18 per cent. in the middle of the duct, and in 15 per cent. in the hepatic end. It would be only natural to expect that the largest percentage of gallstones would lie in the duodenal end, as this would be favored by the bile current. This location is particularly important as tending to back the secretions up, not only on the liver, but on the pancreas as well. It has been shown that bile, forced into the pancreatic duct, will cause fatal pancreatitis. This back pressure leads to the bile being taken up in the general system, and the patient frequently becomes jaundiced to a greater or less degree. We also have here a grave injury to the pancreas in the setting up of a condition of pancreatic lymphangitis, as described by Deaver. In these conditions bile appears in the urine, and the stools are often clay colored. The patient usually suffers from gastric symptoms more or less severe.

Common duct stone is a very serious condition, and must be relieved by surgical means. The mortality in these cases is high. If operation is done in the height of an attack, it may reach 25 per cent. The usual mortality of common duct stone in the most experienced hands will run close to 10 per cent.

There are few conditions more difficult than some of these cases where calculi are imbedded in the common duct. The duct becomes thickened and sacculated. At times it is enormously distended. It may contain one calculus, or a number of them. At times they form a chain running clear up into the liver, obstructing the hepatic duct and its branches. The duct is occasionally packed with small stones like peas in a bottle. Again a large stone may become wedged and cause complete obstruction.

A very common type of stone is the ball valve stone, lying in the ampulla of Vater. Irritation

in this region in rare instances has led to cancer formation.

Calculi are usually removed by an incision in the hepatic part of the duct, when by means of scoops and forceps the obstruction may be removed. This statement seems simple, but the operation is often extremely formidable. Adhesions may not only be dense, but may show a great tendency to bleed, leading the complications to extreme danger. The possibility of injury of the portal vein must not be forgotten, as it has been injured by men of the widest experience.

If there is any possible doubt as to your structure, a hypodermic needle may be inserted and the bile withdrawn.

Stones may be so deeply imbedded at the ampulla of Vater that it is practically impossible to bring them back to the point of incision in the duct. In certain of these cases they must be removed by a transduodenal route. An incision is made in the duodenum and the stones extracted through the papilla. Sometimes this little opening into the bowel has to be incised.

Duodenotomy is very valuable in selected cases, but the danger of a duodenal fistula is a real one, so much so that the operation is only to be done if the stone cannot be extracted otherwise. I have done duodenotomy in two cases and am sure that the duct could not be cleared in either case by any other method.

In some cases of gallstone disease calculi may be so thoroughly impacted or associated with cancer in such a way that the only method of giving relief is by making an anastomosis between the gallbladder and the duodenum. This operation is rarely required, but at times it is very necessary.

The operative treatment of gallstone disease must be learned in the operating room. I believe in those cases where there is the involvement of the common duct, it is well to make a long incision. This gives room for examination of the stomach and duodenum as well as for the removal of the appendix. For this purpose I believe the incision of Bevan is more desirable than any of the others. The transverse incision that has been recommended, particularly by McArthur, while exceedingly useful in treating the gallbladder alone, does not give room for exploration and surgical repair of other regions.

In many cases there is a liability of infection of the peritoneum at the site of operation, as the fluids in the gallbladder and ducts may contain virulent germs. For this reason I consider the postoperative toilet and the postoperative treatment to be of the greatest importance to the patient.

In drainage of the gallbladder the old plan of attaching the gallbladder to the peritoneum has been abandoned as unnecessary and leading to painful adhesions. A tube is now placed in the gallbladder, which latter is enfolded

around it in such a way as to prevent leakage, and it is then let slip back inside the abdomen.

Thorough drainage is necessary if there has been any escape of fluid from the gallbladder or ducts. Where there is a liability to severe infection, I believe the plan of placing the patient on the abdomen for a few hours, and absolutely refraining from giving anything by the mouth, by the use of morphin to prevent peristalsis, and the introducing of fluid into the general system by means of proctoclysis, is of inestimable value. This prone position in cases where there is severe infection is of the greatest value. It is not nearly so uncomfortable as one would consider, and every advantage is taken of the forces of gravity in getting rid of contaminating fluids with the utmost rapidity. By this means the injured area is quickly walled off and the danger of spreading peritonitis avoided.

In conclusion, I would say first, as a general rule, all gallstone cases giving rise to symptoms should be operated on. Secondly, where there is any question as to the gallbladder not functioning after operation it should be removed. Thirdly, that a comprehensive view of the disease and careful attention to all details of operation may be expected to secure a lower mortality than we have today.

Gallstone disease is a serious disorder and if we are going to accomplish the most good with the least risk, it must be dealt with by radical means before secondary processes have resulted in damage to important organs like the liver, the pancreas, and the kidneys.

When once the general profession comes to realize the true gravity of these lesions, I think the importance of securing early surgical relief will be recognized.

217-218 Lister Bldg.

TUMORS OF THE BLADDER AND THEIR TREATMENT WITH HIGH-FRE- QUENCY CAUTERIZATION *

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The early recognition of tumors of the bladder is of the utmost importance. Tardiness in diagnosing tumors of the bladder is not so often due to the lack of symptoms as to the lack of interpreting their seriousness. The most prominent symptom in these cases is hematuria. This in itself is a striking symptom but unfortunately occurs in other conditions. In tumor of the bladder it usually causes very little pain, especially in its early stage, and the tendency of

* Read before the St. Louis Medical Society, April 17, 1915.

the patient and at times the doctor also, is to assume that the bleeding is of minor importance and they are willing to wait to see if it recurs. The bleeding may not recur for weeks or months but the tumor is growing larger all the time and may undergo malignant changes during this period. Hematuria is more often a symptom of serious trouble than it is of the trivial conditions of the genito-urinary tract, so it behooves us to locate at once, while the bleeding is going on, exactly its source.

The cystoscope is here the means to our end and by its use, with its perfections of the present day, we practically turn the bladder inside out, making observations definite and the calculations rather simple. Cystoscopy is an absolute necessity in the diagnosis of vesical tumor. In this manner small papillomata have been discovered and their removal made possible by minor means, before they have attained large size or undergone malignant changes. The vesical growths are easily seen with the cystoscope. Whereas, formerly their removal necessitated open operation or, even in more recent years, their piece-meal destruction with the operative cystoscope, attended by incomplete removal and frequency of recurrence. The valuable expedient of destroying these growths by the application of the high-frequency cauterization through the cystoscope has practically revolutionized the treatment of papillomata of the bladder.

These tumors appear as small or large pedunculated excrescences located on various portions of the vesical mucosa or may be sessile. Through the cystoscope their surfaces appear pale pinkish in color or bright red, or they may be whitish in portions, denoting areas of necrosis or calcareous deposits. There may also be the dark red or dirty, sloughing, ulcerated appearing tumors signaling malignancy.

All who have used the high-frequency current in treating tumors of the bladder must classify the signs of malignancy according to an entirely new point of view. The ordinary signs of malignancy are:

1. Multiplicity of growth. This certainly indicates a greater tendency toward malignancy than a single growth.

2. A large tumor denotes malignancy more often than a small one.

3. Infiltration at the base of the tumor, which is not always possible to determine cystoscopically, is often more easily discovered by bimanual examination, having the finger in the rectum and the other hand over the suprapubic area. In this way I think induration of the bladder wall and rectum can be more readily outlined.

4. Dirty, sloughing or ulcerated surfaces over the tumor often means malignancy.

5. The clinical symptom which is indicative of malignancy is a severe, intractable cystitis, causing the patient severe pain and frequent urination which is not amenable to any form of treatment.

Clinically, malignancy of the bladder is not precisely what the pathologist calls it; namely, a tumor which shows evidence of carcinomatous changes by a section from its base; for we see the histories of two such cases reported cured by high-frequency cauterization; one by Dr. Keyes and the other by Dr. Binney. Hence the pathologist's diagnosis is not infallible as regards the clinical view of malignancy of tumors of the bladder.

The clinically malignant tumor of the bladder, according to Dr. Keyes, is the tumor which is not curable by the use of the high frequency cauterization through the cystoscope. Apparently this is a rather sweeping view but after considering its source it must be given due consideration.

Method of Applying High-Frequency Cauterization:—The earlier cases of Beer and Keyes were treated by the d'Arsonval or bipolar type of current while later the Oudin monopolar type of current was used. The latter is simpler and equally as efficient as the d'Arsonval type.

A catheterizing cystoscope is used, having the catheter-carrying tube on the side not in use closed by placing a nonperforated rubber cap over the inlet for the catheter, the other side being used for passing an insulated copper or steel wire. This is attached at its outer end to a cord leading to the high-frequency apparatus, while the inner end (stripped of its insulation for a distance of not more than a quarter or half of a centimeter) passing through the cystoscope to be brought in contact with the tumor. It is usually preferable to use the indirect catheterizing telescope (Bransford Lewis Universal Cystoscope) as with it the electrode can more easily be brought in contact with the tumor. The strength of the current is registered in milliamperes and is made stronger by lengthening the spark. A foot switch is provided so that the operator can turn the current on or off. At first there is a blanching of the tumor tissue and after twenty-five or thirty seconds the tissue has a charred appearance and the odor of burnt meat is very evident. The length of application to any one point varies from forty seconds to two minutes. Two to five applications are made at a sitting. The intervals between treatments with the high-frequency current vary. We have seen patients whom we could safely treat every other day and again others who would make better progress by being treated every ten days or two weeks. This depends entirely upon the susceptibility of the patient and deductions must be made in each case separately. The greatest care should be exercised to see that there is no short circuiting about the high-frequency apparatus. A casual inspection and preliminary

test of the instrument should always be made as an unexpected electric shock to the operator and patient, though not dangerous, are unnecessary annoyances.

During the fulguration of the tumor the patient should experience no pain or shock from the current whatever. However, after most of the tumor has been destroyed and we near the bladder wall the patient will feel some pain at each application of the current. This, then, is a signal that we are getting back into healthy tissue and fulgurations should proceed cautiously and for a shorter period. If the electrode can be brought in contact with the pedicle of the tumor progress will be more rapid as the circulation to the tumor is in this way cut off, destroying it en masse.

By comparing this method of treatment with the open operation one may easily see its superiority if the following points are considered:

1. The necessity and dangers of a general anesthetic are done away with as fulguration can be done under local anesthesia.
2. The mortality by the use of high frequency cauterization is nil, while with the open operation it is from 10 to 14 per cent.
3. Complications after the open operation, such as hemorrhage, sepsis, pneumonia, etc., are also reduced to a minimum with the intravesical treatment.
4. Recurrence, the most dreaded following previously successful open operation for vesical papillomata is decidedly lessened. These recur frequently in the line of incision and at the former site of the removed tumor.

Points of Interest in Fulgurating Vesical Papillomata.—Cases have been reported where one or two fulgurations have cured small papillomata. In one of our cases the tumor had disappeared after two treatments, leaving a thickened, crater-like base surrounded by edema bullosum. Another case required five treatments before we were able to determine the attachment of the tumor. Still another of our cases was fulgurated and an apparent cure was imminent, there being a complete cessation of symptoms and a return to robustness that was little short of marvelous. However, seven months later hematuria reappeared and cystoscopy revealed bleeding at the former site of the tumor with some recurrence, which was not amenable to high-frequency cauterization. This case no doubt was one in which the tumor itself was a papilloma but its base had undergone malignant degeneration.

Fulguration of indurated malignant growths of the bladder have proven entirely useless and a loss of valuable time to the patient.

Much attention has been given to the use of five to twenty per cent. resorcin solution placed in the bladder after open resection of the tumor by surgeons abroad and Dr. Hugh Young of Baltimore. This we have used after fulguration with the purpose of preventing recurrent

growths on the other various traumatized portions of the bladder mucosa.

We have to report ten cases of vesical tumor treated by the high-frequency cauterization method, four of which were malignant; five were benign papillomata and one, which we regard as a papilloma, which had later undergone malignant changes at its base.

The histories of the cases are as follows:

CASE 1.—J. A. H., male, aged 73, farmer. Trouble began seven months before we first saw him with hematuria. No pain or difficulty in urinating until four months later. This continued more or less up to the time we saw him. Had lost 30 pounds; felt very weak and looked very anemic; barely able to walk. Urines were both cloudy and very foul; residual urine seven ounces. Cystoscopy showed a pedunculated tumor about the size of a large hickory nut, attached to the anterior wall of the bladder and slightly to the left of the median line. Its surface was covered with a grayish-black pseudomembrane. Palpation revealed decided infiltration of the bladder wall and prostate. After five applications with the high-frequency current, although he had less difficulty in urinating, the improvement was not sufficient to warrant further treatment. Patient died seven months later of carcinoma of the bladder.

CASE 2.—D. T., male, aged 71, merchant. Noticed burning on urination one and one-half years ago. No undue frequency. Hematuria began two months before we saw him and had been continuous with the exception of a week or so. Urines were both cloudy due to blood, pus and bacteria. Cystoscopy showed a solid cauliflower growth attached to the anterior wall of the bladder. High-frequency cauterization was used but no improvement followed. Six months later patient died of metastatic carcinoma of the stomach.

CASE 3.—W. G., male, aged 52, manufacturer. One year before we saw him noticed slight burning on urination and at times blood in urine. Bleeding was never profuse until two days before we saw him. Cystoscopy showed a large nodular, bleeding tumor on the anterior wall of the bladder. High-frequency cauterization was used six weeks with no improvement. Patient died four months later. The necropsy showed carcinoma involving the entire bladder, with subsequent left pyonephrosis and right hydronephrosis.

CASE 4.—J. S. H., male, aged 52, farmer. Had noticed some difficulty in urinating and undue frequency for eight years. Six months before first applying for treatment he noticed bloody urine which had been continuous except for a period of three weeks about one month before we saw him. About this time he began to have severe and continual pain about the lower end of the spine, rectum and upper thighs. Urines were very foul and both cloudy, due to blood, pus and bacteria. Cystoscopy showed a sessile tumor growth on the anterior wall of the bladder slightly to the right side. Part of it was covered by a grayish pseudomembrane with ragged edges which bled very easily. Bimanual palpation showed much infiltration of the bladder wall and a section removed by a biting forceps through the universal cystoscope proved it to be a carcinoma. High-frequency cauterization was tried but no improvement followed. Patient is still alive and under our care.

CASE 5.—H. W. S., male, aged 34, clerk. First noticed hematuria four months before we saw him. Bleeding became gradually worse and at times very profuse, causing clots so large as to obstruct urination. Had been previously cystoscoped before coming

to us but no diagnosis had been made. Examination showed both urines very cloudy due to blood and pus. Cystoscopy showed mucosa normal. Two small papillomata were seen, one attached by a pedicle to the left lateral wall of the bladder covering the trans-vesical portion of the left ureter; the other somewhat smaller (size of a hazel nut) was located about one-half inch external to the left ureteral orifice. Tumors were definitely cauliflower-like, pale pink and had an irregular surface. Blood was seen to gradually ooze from the pedicle of the larger tumor, streaming down in a ribbon-like manner on the mucosa. Cauterization by the high-frequency current was at once instituted and rapid progress was made, the tumors disappearing entirely after four treatments.

CASE 6.—A. K., male, aged 68, merchant. Eight months before we saw him noticed hematuria which had persisted intermittently. At times he had passed clots. Had no pain until ten days previous to our seeing him, when he had pain in the right lumbar region for a short time which passed off without using a sedative. Cystoscopy showed a small fimbriated, pedunculated papilloma attached to the right wall of the bladder slightly anterior. After two applications of the high-frequency current the tumor had disappeared leaving a thickened base, surrounded by bullous edema. Cystoscopy done on this patient Feb. 17, 1915, showed nothing more than a slight irregularity at the former site of the tumor.

CASE 7.—D. H., male, aged 68, grain dealer. Eight years before seeing us had dull pain in the back radiating toward the right inguinal region which lasted for two days. Had no further trouble until six years later when he noticed bloody urine. At this time passed several sand-like particles none of which was larger than the head of a pin. For the past two years has never been entirely free from pain in the right groin longer than two or three days at a time. Urines at times were bloody and always cloudy. Had some burning and difficulty in urinating. Both urines were cloudy due to pus, blood and bacteria. Cystoscopy showed a large villus growth involving the entire right half of the bladder. Bleeding was very profuse. Patient was a very unfavorable case for cystoscopy as the most painstaking instrumentation was at first always followed by a severe reaction. This was finally overcome and steady progress was made. High-frequency cauterization was done at intervals of one week to ten days, covering a period of about four months. We have a letter from him dated Jan. 27, 1915, saying he is entirely free from all his former symptoms.

CASE 8.—G. S., male, aged 63, real estate dealer. Five years before we saw him had a complete retention of urine, was catheterized one time and after several days says he felt as well as ever. Since has had some irritation of the bladder at times following overindulgence in alcoholics, but at no time was trouble severe. Four months before seeing him he noticed hematuria, burning and difficulty in urinating. The difficulty in urinating increased and at the time we saw him he had 6½ ounces of residual urine. Both urines were very cloudy and foul. Palpation of the prostate did not show any enlargement. Cystoscopy showed very small bladder capacity, the entire bladder being filled with the tumor tissue. The only view possible was by the direct observation telescope. The attachment of the tumor could not be determined and views with the right angled or retrospective telescopes were not possible owing to the tumor growths falling over the lens. High-frequency cauterization was begun and rapid progress was made. After five sittings, of four or five applications each, the tumor had been reduced sufficiently in size to determine its attachment which was on the left lateral

wall. At this time the residual urine had entirely disappeared and the patient was feeling fine.

CASE 9.—C. C. M., male, aged 34, bookkeeper. Seven months ago noticed blood in his urine. The bleeding was always increased by exercise and decreased by rest. Has constant pain in left groin and burning in the urethra at the end of urination. Urines both very cloudy due to blood, pus and bacteria. Cystoscopy showed bladder mucosa moderately inflamed. A tumor growth which seemed rather solid with the smooth surface was seen attached to the left lateral wall of the bladder. High-frequency cauterization was instituted and the patient is progressing nicely. Has been under care about two months and there remains only the stump of the original tumor.

CASE 10.—C. S., male, aged 69, banker. Had always been well and strong up to two months before we saw him when he first noticed blood in his urine. This was only slight at first but gradually became more profuse. At one time since was free from bleeding for a week but since then bleeding has been continuous. Had lost weight. Looked pale and felt very weak. Had some burning and difficulty in urinating. Urines are very bloody. Cystoscopy was very difficult on account of the tightness of the urethra and extreme sensitiveness. A large tumor covered with blood clot was found in the right antero-lateral fossa of the bladder near the vesical orifice. Small villus projections were seen attached to the lower part. The attachment of the tumor was not discernible and it interfered with irrigation through the cystoscope by falling over the inner opening of the sheath. This was overcome by introducing an aspirator and pushing away the tumor tissue. After high-frequency cauterization excellent progress was noted and the size of the tumor was reduced to that of a large hickory nut. The treatments were continued at intervals of from five days to one month for a period of six months. Three months after the last high-frequency cauterization, letter received from patient said he was well and had no further symptoms, gained weight, general condition fine and had resumed his ordinary duties. Was free from all symptoms for seven months, then noticed a return of the bleeding. Returned for treatment and cystoscopy showed bleeding and some recurrence of growth at the site of former tumor. High-frequency cauterization was begun and although persistently carried out no improvement followed. This growth, I should say, was a papilloma, the base of which had undergone malignant changes, and therefore, not amenable to treatment.

CONCLUSION

1. The early diagnosis and prompt treatment of tumor of the bladder are of the utmost importance.

2. The high-frequency cauterization should be the method of choice in attacking all papillomata of the bladder and definite proof is at hand to state that it has revolutionized the treatment of vesical papillomata.

3. The danger of complications or death are entirely eliminated.

4. Recurrences are far less frequent with this form of treatment than by open operation.

5. Fulguration of indurated, malignant growths of the bladder have proven entirely useless.

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THE JOURNAL

OF THE

Missouri State Medical Association

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NOVEMBER, 1916

EDITORIALS

NATIONALIZED FIRST AID

Until a relatively short time ago the medical profession in this country for the most part considered itself as entirely a thing apart from things military. It is true that a goodly number took service in the National Guard and a few became lieutenants in the Medical Reserve Corps of the Army and Navy; but most of us took little interest in the medical and sanitary problems which must inevitably succeed upon the entrance of the United States into a war.

When the preparedness movement began to quicken the pulses of patriotic Americans, the immediate and hearty response from our profession was as gratifying as it was surprising. Physicians whose most war-like endeavor since boyhood had consisted in a violent attack on a golf-ball hurried to enroll for the training camps. Stimulated by the Red Cross, hospital units of various sorts were organized throughout the country. There was a rush for commissions in the Reserve Corps. The hospitals joined the procession and the mobilization of the medico-military forces of America took on an active being. When the Guard was ordered to the border hundreds of surgeons left lucrative practices to serve the Government under very trying circumstances at a bare living wage. This is fine patriotism—fine self-sacrifice for country.

In another way, one which is equally valuable for peace and war, our profession has linked arms with the general Government. The American First-Aid Conference met in Washington on Aug. 24, 1915, and adopted a resolution requesting the President to appoint a board for the purpose of standardizing first aid; this he complied with on Nov. 6, 1915, and appointed the board, an unpaid body, as follows: Dr. Richard H. Harte, Chairman; Col. Louis A. LaGarde, M.C., U.S.A., Vice Chairman; Asst. Surg. Gen. W. C. Rucker, U.S.P.H.S., Secretary; Dr. J. P. Kaster; Dr. Samuel C. Plummer; Surg. A. M. Fauntleroy, U.S.N.; Dr. J. Shelton Horsley; and Maj. R. U. Patterson, M.C., U.S.A. The board organized, and subsequently presented to Congress an appeal for financial assistance. The Sundry Civil Act, approved July 1, 1916, carried with it an appro-

priation of \$2,000 for this purpose. The board is now endeavoring to collect from all available sources information regarding first-aid methods, first-aid instruction, first-aid equipment, and first-aid transportation. A selected group of surgeons has been requested by the secretary, Asst. Surg. Gen. W. C. Rucker, U.S.P.H.S., to cooperate in this movement, and a great number have already signified their willingness to take part in the work. It is hoped that in this way the best in first-aid methods, instruction and apparatus can be secured, and that first-aid packets and kits can be devised which will be standard throughout the United States and which will be equally useful in alleviating the injuries of peace and of war. The board contemplates devoting considerable attention to litters and other means of transporting the wounded so that litters in one part of the country will with equal ease fit an ambulance of another part of the United States. The board is gathering historical data regarding first aid and is collecting books, pamphlets, and other first-aid instruction which has been issued by industrial concerns. The Bureau of Labor Statistics is cooperating heartily in the movement especially from the viewpoint of industry.

AMERICAN SOCIAL HYGIENE ASSOCIATION

St. Louis is, in a sense, the birthplace of the American Social Hygiene Association. It was in St. Louis a number of years ago that the American Federation for Sex Hygiene was organized. Later the American Vigilance Association, organized in Chicago, and the American Federation for Sex Hygiene merged, forming a great national organization under the name of the American Social Hygiene Association.

On November 20 and 21, 1916, the American Social Hygiene Association will hold its annual meeting in St. Louis. Many of the most prominent leaders in social hygiene work will be present and will address public meetings upon various phases of social hygiene. Among the notable leaders who will participate in the program are Dr. Abram W. Harris, President of the American Social Hygiene Association; Mr. Jerome D. Greene, of the Rockefeller Foundation; Dr. William F. Snow, General Secretary of the American Social Hygiene Association; Dr. J. N. Hurty, Commissioner of Health of Indiana; Dr. S. J. Crumbine, Commissioner of Health of Kansas; Dean Herbert L. Willet of the University of Chicago; Dr. W. A. Evans, of the Chicago Tribune; Dr. William A. Pusey, of the School of Medicine of the University of Illinois; Attorney General George Cosson of Iowa; Dr. George R. Dodson, President of the St. Louis Social Hygiene Society; Mr. J. Lion-

berger Davis, Chairman of the Committee of One Hundred, St. Louis; Mr. Percy Werner, St. Louis, member of the Board of Directors of the American Social Hygiene Association; Mr. Samuel P. Thrasher of the Committee of Fifteen, Chicago; and numerous other of the most prominent leaders in the social hygiene field.

The public health and law enforcement aspects of social hygiene will be thoroughly discussed, and the problems analyzed and thrashed out in the various public meetings. A group of prominent citizens of St. Louis, headed by Dr. George R. Dodson, Mr. J. Lionberger Davis, and Mr. Percy Werner, are making the local arrangements for the national meeting. Programs and other information can be secured from the central States Division office of the American Social Hygiene Association, 122 S. Michigan Blvd., Chicago, Ill.

DEATH OF DR. ALLEE

The unexpected death of Dr. W. S. Allee, treasurer of the Association and chairman of the Council on Health and Public Instruction, is a tremendous loss—a loss that will be keenly felt by the Association and the people in his own community as well as by the people of the entire state. Dr. Allee's versatile mind, his nobility of character and his generous nature drew him into many forms of service, each having for its principal object the protection and the advancement of the welfare of the people. He was trusted and honored and loved as few men have been and his advice and counsel were sought by statesmen in the highest sphere of life and by the petitioner in the humblest walk, with the full knowledge that his words were words of wisdom and contained no guile.

For a short time before his death, Dr. Allee complained now and then of some seemingly mild attacks, apparently referable to the intestinal organs. No serious attention was given the matter until about Monday, October 2, when a definite condition of obstruction of the bowel was manifest to him. He, however, regarded it as a temporary state and did not seek medical advice until the following Thursday. The symptoms then became so pronounced that he went to Kansas City and entered the Wesley Hospital. After consultation with several of the surgeons in Kansas City he was operated upon immediately. The obstruction was found and released and apparent relief followed. In a few hours, however, distention and vomiting took place and although a second operation was performed it failed to relieve him and he died early Monday morning, October 9. He was buried at Olean on October 12. The funeral was attended by more than a thousand people.

In the legislature Dr. Allee was a tower of strength and our chief reliance in all matters pertaining to health legislation. When Dr. Wallace of Brunswick was elected to the Senate in 1914, Dr. Allee felt that he could retire from the active political field and leave the work safely in the hands of others, but when Dr. Wallace died suddenly on August 24, a deep gloom settled upon Dr. Allee that must have troubled his spirit and he felt that he had been derelict in his duty for not standing for reelection this year. Such was his unselfish and conscientious devotion to the profession he loved.

In our next issue we will publish a full account of Dr. Allee's career.

ONE HUNDRED PER CENT. SANITARY GRADE FOR CLAY COUNTY

The sanitary survey of Clay County has just been completed by the U. S. Public Health Service with a grade of 100 per cent. The Service has made surveys in fourteen states, one county in each of the fourteen states, during the past several years, but none of them has scored as high as Clay County. These surveys are primarily intended to educate the rural population in hygiene and sanitation and constitute a special work by the Public Health Service. Wherever a survey has been made the people have responded with enthusiasm and intelligence. They have learned the simple things about themselves and about farm management from a hygienic standpoint that would have remained a sealed book to them forever without such intimate instruction and demonstration in their own homes and on their own farms as that provided by the Service.

For the past three months the Service has been in Clay County inspecting homes, grounds, farms and out-buildings in the rural as well as in the town communities. Every building, every farm, every home, every street and road, wells, cisterns and out-buildings were scrutinized and found at the completion of the survey to be in perfect sanitary condition.

It is especially appropriate that the survey in Missouri should have been made in Clay County so that the popular health resort at Excelsior Springs might have the benefit of the advice of the health experts of the Government in making that city a model of cleanliness. That the county made a perfect score is quite remarkable when we consider that there are two large urban communities in Clay County—Excelsior Springs and Liberty.

The close of the survey was celebrated by the people at Excelsior Springs with a parade of sixty floats depicting the various stages in the crusade to cleanse the city and the county.

FILL THE GAPS

Since the beginning of 1916 death has removed from our ranks three of our most influential members—men who enjoyed the respect and confidence and esteem not only of the entire medical profession but of the public. We refer to Dr. Frank J. Lutz, Dr. J. S. Wallace and Dr. W. S. Allee. For many years these men gave the Association their time and attention and could always be depended upon to set aside their personal and professional duties to perform a sacrifice for the organization. There are of course many other members quite as willing to serve as were our departed friends but while these three lived the impulse to turn to them for counsel and advice and action was shared by the entire membership. But they are gone and only the memory of their devotion and their willing spirit to serve remains with us. We pause to pay a tribute to their memory, lay a wreath upon their tombs and record their names and deeds in our annals and then we must close our ranks and march forward. That is what they would have us do.

An opportunity here presents itself for some of the young men in our Association to show their loyalty to the organization and become more active in the serious affairs that bring the profession and the public into contact. The county medical societies should rededicate themselves to the purposes of the organization and make ready for the battles that must be fought during the next twelve months. Let the young men into the councils of the societies and upon their shoulders let us lay the burdens that are becoming too heavy for those whose youth has fled and whose span of life is narrowing toward the sunset.

DR. GAIL D. ALLEE APPOINTED
TREASURER

The death of Dr. Wm. S. Allee left vacant the office of treasurer of the Association. The by-laws provide that the Chairman of the Judicial Council shall fill any vacancy occurring in the office of treasurer during the period between the annual meetings of the Association. The chairman has appointed Dr. Gail D. Allee, of Lamar, son of Dr. W. S. Allee, treasurer for the unexpired term.

Dr. Gail D. Allee is a graduate of the Beaumont Hospital Medical College, 1898, and has been an active and loyal member of the Association ever since he was graduated and licensed to practice. In accepting the position he expressed his appreciation of the honor and his determination to "serve the Association as he whose place I am taking would have me serve it. More than that no man could do."

OBITUARY

DELBERT CLAUDE ADCOCK, M.D.

Dr. D. C. Adcock, of Warrensburg, Mo., a graduate of the University Medical College, Kansas City, 1904, and a specialist in eye, ear, nose and throat diseases, committed suicide on the morning of September 18, near his farm at Hickman, Mo. Age 36 years. About six years ago he fell to the street from the second story of the building where he had his office. He had not been well since then and had grown despondent because of his ill health. He was the son of Dr. J. A. B. Adcock, Secretary of the State Board of Health. He leaves a wife and one son.

Dr. Adcock was an active member of the Johnson County Medical Society and the Missouri State Medical Association.

NEWS NOTES

DR. CHARLES L. ALLEN, of Cosby, spent a month in Chicago taking post-graduate work.

DR. WM. R. PATTERSON, of Warrensburg, has been appointed registrar of vital statistics.

DR. C. R. WOODSON, of St. Joseph, has been elected president of the Missouri Valley Medical Society.

DR. J. H. THOMPSON, of Kansas City, was elected vice president of the Medical Association of the Southwest.

DR. JOHN H. SIMON, former Health Commissioner of St. Louis, is recovering from an illness that required a surgical operation.

DR. E. J. BUTZKE of Mountain Grove has been appointed a member of the State Poultry Board for a term expiring August 16, 1918.

DR. J. A. CAMPBELL, of Kansas City, has been arrested by the United States authorities charged with violation of the Harrison Anti-Narcotic law.

DR. H. E. PEARSE, of Kansas City, was elected president of the staff on the General Hospital to succeed Dr. J. D. Griffith, the retiring president.

DRS. DANIEL MORTON, J. J. Bansbach, L. J. Dandurant and W. H. Minton, all of St. Joseph, have been elected Fellows of the American College of Surgeons.

DR. J. M. CHRISTY, of Butler, has been appointed a member of the Butler Board of Health to take the place made vacant by the resignation of Dr. E. N. Chastain.

DR. F. REDER, of St. Louis, was elected first vice president of the American Association of Obstetricians and Gynecologists at their annual meeting held at Indianapolis, September 25-27.

THE jury in the case of Dr. George A. Bradford, charged with writing illegal prescriptions, was discharged October 12, after being out for five days. The charges against Dr. Bradford were brought by the W. C. T. U.

DR. MILO E. HARTMAN, of Kansas City, has voluntarily exiled himself from Missouri in order to avoid prosecution of charges before the State Board of Health for unprofessional conduct, according to a news dispatch from Kansas City.

DR. G. O. CUPPAIDGE, of Moberly, Major in the Medical Corps of the Fourth Missouri regiment National Guard, has returned home for a brief visit. He has been stationed at Laredo, Tex., ever since the Missouri troops have been on the border and will return.

DR. J. B. TAULBEE, for many years a resident of Joplin, and an active member of the Jasper County Medical Society and the Missouri State Medical Association, has returned to Joplin and taken up active practice. Dr. Taulbee spent the greater part of last year in Lexington, Ky., and was a member of the Fayette County (Kentucky) Medical Society.

THE United States Circuit Court of Appeals has sustained the judgment of the trial court against Charles Brand, who lives near Baden in St. Louis County, to serve six months in the St. Charles jail and pay a fine of \$500 for using the mails to defraud. Brand denies that he represented himself as a physician but admitted that he used herbs for cures.

DR. G. C. HALL of Lees Summit has been appointed superintendent of the Jackson County Poor Farm. It is said the court contemplates changes in the management of the County Farm by establishing several departments with a superintendent in charge of each department who will report directly to the court. The County Farm has been under the charge of one general superintendent in the past and it is said certain conditions made it difficult to control the employees. The County Court hopes to improve the County Farm conditions under the new arrangement.

WITHOUT entering into the discussion as regards the merits of women in medicine—What would they do without us: Ann Oresia, Ethyl Chloride, Belle Adonna, Carrie O. Kinesis, Vera Montanum, Anna Phylaxis, Polly O. Myelitis, Rose Acea, Meta Plastic, Sarah Beliam, Ella Phantiasis, Emma Tropia, Molly Cule and Rena L. Calculus.—*Bull. Medical Women's Club of Chicago.*

DURING September the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Nonofficial Remedies:

The Abbott Laboratories: Chlorazene; Chlorazene Tablets, 4.6 grains.

Merck and Company: Benzidine-Merck (for Blood Test).

E. R. Squibb and Sons: Thromboplastin-Squibb.

THE Southern Medical Association will hold its annual meeting at Atlanta, Ga., November 13-16. One of the principal features of the meeting will be the clinics at the medical college and the City Hospital conducted every morning from eight to ten o'clock by visiting clinicians. On the evening of the 13th a public meeting will be held at which addresses will be delivered by prominent health workers, and on Wednesday evening a "Georgia Barbecue" will be given at the Druid Hills Country Club.

A MAN who styles himself B. F. Little has recently been collecting money from physicians in Oregon and Washington under the pretense of being a representative of D. Appleton & Company, the medical book publishers of New York. The man's plan is to say that he is collecting for the Western Students Benefit Association of Denver, Colo. Doctors in Payallup, Wash., and Coquille, Ore., are reported to have been his victims. D. Appleton & Company are endeavoring to have the fact made known to doctors in the Far West that this man is an impostor and has no connection whatever with their firm, and that any payments which are made to him are of course at the risk of the doctor.

IT was a great day for the women at the board of health meeting. The Council of Clubs saw the successful close of its long fight for dental inspection in the schools, and the Consumers' League won its struggle for a bacteriological laboratory in which milk inspection may be better cared for. Also, the delegation of the league watched the ax fall on employees of the board without objection to the personnel of those beheaded. Dental inspection was assured when the board accepted the \$5,000 offered by an unnamed man to pay for four

free clinics this school year, and agreed to appropriate a like amount next year to continue the work. The management of the dental inspection was turned over to the oral hygiene committee of the Kansas City Dental Society. The dentists promise the free services of about thirty inspectors in the schools. Inspection will start without delay, it is said. The payment of the \$5,000 gift is all that remains to start it.—Kansas City Times.

MEMBERSHIP CHANGES, OCTOBER

NEW MEMBERS

Fred R. Berry, Kansas City.
Eugene L. Broeker, St. Louis.
John W. Coy, Fair Play.
Wright H. Denton, Micola.
Gerson Feigenbaum, St. Louis.
Thos. E. Ferrell, Mountain View.
Robert Glynn, Springfield.
Tyre H. Hale, St. Louis.
Samuel W. Holt, Steffenville.
Clarence Martin, St. Louis.
Nathan K. Mills, St. Louis.
Ludwig O. Muench, St. Louis.
Teresa Pell, St. Louis.
James R. Rogers, Brownington.
Oliver Rosegren, St. Louis.
Alma C. Smith, St. Louis.
George W. Smith, Kansas City.
Edward N. Snyder, St. Louis.
Olinda A. Stricker, St. Louis.
John Leo Tierney, St. Louis.
Henry A. Well, Springfield.

CHANGE OF ADDRESSES

E. S. Ballard, Corby-Forsee Bldg. to 315 Phys. and Surg. Bldg., St. Joseph.
Francis L. Bishop, 4271 Washington Ave. to 4292 Washington Ave., St. Louis.
George W. Boteler, 825½ Fred Ave. to 205 Phys. and Surg. Bldg., St. Joseph.
R. B. Brewster, 402 Argyle Bldg. to 816 Lathrop Bldg., Kansas City.
Victor A. Carriere, 2203½ Dodier Ave. to 2128 St. Louis Ave., St. Louis.
O. L. Castle, Argyle Bldg. to 812 Lathrop Bldg., Kansas City.
Harry S. Conrad, 42 Ballinger Bldg. to 210 Phys. & Surg. Bldg., St. Joseph.
H. C. Crowell, 819 Gloyd Bldg. to 2600 Forest, Kansas City.
L. J. Dandurant, Corby-Forsee Bldg. to 315 Phys. & Surg. Bldg., St. Joseph.
A. R. Greenlee, 1226 Askew to 2827 East 9th St., Kansas City.
H. H. Hogan, Barnes Hospital to 408 Humboldt Bldg., St. Louis.
Joseph Hansler, St. Joseph to San Antonio, Texas.

J. P. Hennerich, 2919 S. Broadway to 3603 Utah Pl., St. Louis.

Robert E. Howlett, Hawkins to Richland.

John A. Hyatt, Excello to Maud, R. D. Clarence.

Chas. D. Johnson, 3957 Shaw Ave. to 3902 Lafayette Ave., St. Louis.

Elza L. Johnston, Kansas City to Waverly, Missouri.

Constantine M. T. Klie, 2429 Wren Ave. to 5450 Wren Ave., St. Louis.

J. C. Martin, 2304 Indiana Ave. to 406 Bryant Bldg., Kansas City.

L. A. Marty, 3501 E. 9th St. to 612 E. 9th St., Kansas City.

Chas. Q. McGinnis, Twin Falls, Idaho to Filer, Idaho.

Roland Menown, 2356 Geraldine to 5330 Geraldine Ave., St. Louis.

L. O. Nickell, Clarence to Bonne Terre.

C. D. Osborne, Syracuse to Otterville.

James L. Potter, 614 N. Compton to 4635 Easton Ave., St. Louis.

J. C. Redington, Jewish Hospital to Barnes Hospital, St. Louis.

Floyd B. Ricketts, Mountain Grove to Venice, Illinois.

Wm. Honey, Sisters Hospital to 1010 Powel St., St. Joseph.

Henry L. Rothman, St. Louis to Washington, Missouri.

Andrew H. Ryan, Mobile, Ala. to Boston, Mass.

W. E. Shahan, 925 Beach Ave. to 6170 McPherson Ave., St. Louis.

Wm. L. Sharp, Little Rock, R. D. Slater to Columbus, New Mexico.

David E. Smith, St. Louis to Cape Girardeau.

E. F. Stadtherr, San Francisco, Calif. to San Jose, Calif.

J. L. Statler, Granger to Cantril, Iowa.

J. B. Taulbee, Lexington, Ky. to Joplin, Mo.

L. M. Thompson, Macon to Atlanta.

Wm. O. Winter, 3621 S. Broadway to 3325 S. Grand Ave., St. Louis.

O. B. Zeinert, Mo. Pacific Hospital to 501 Humboldt Bldg., St. Louis.

John C. Zuercher, St. Louis to Brodhead, Wis.

TRANSFERRED

Nathan Boggs, New London, Ia. to Henry Co. (Iowa) Society.

M. A. Broemser, Holly, Colo., to Powers Co. (Colo.) Society.

R. C. Henderson, Pittsburgh to Crawford Co. (Kansas) Society.

Ross Hopkins, Independence, Kans. to Montgomery County (Kans.) Society.

RESIGNED

Walter A. Fansler, Minneapolis, Minn.

George E. Lyon, Los Angeles, Calif.

DROPPED

John W. Crabtree, Butler.
 Maggie L. McCrea, Sterling, Kans.
 Walter W. Murphy, Lewis, Ia.
 D. A. Lauranzana, Omaha, Neb.
 Isaac F. Sharp, Jonesboro, Ark.
 W. T. Singleton, Jr., Long Beach, Calif.
 James M. Smith, Amoret.

DECEASED

D. C. Adcock, Warrensburg.
 W. S. Allee, Olean.

CORRESPONDENCE

TAKES HIS NAME OFF THE LIST

RENO, NEVADA, Sept. 14, 1916.

To the Editor: The September number of the *Journal of the Missouri State Medical Association* reached me this morning and I have read the marked editorial with interest.

When invited to join the Medical Society of the United States, nothing was said to me to the effect that it was to uphold fee splitting. Dr. Lanphear gave me to understand that it was to be an independent organization with high aims.

For your information, I am not, never have been and do not anticipate being a fee splitter in the future. I am writing Dr. Lanphear to take my name off the list of vice presidents and to erase it from the rolls of the society.

Thanking you for the marked copy, I am.

Very sincerely yours.

(Signed) GEO. L. SERVOS.

 WILL NOT READ A PAPER

CHICAGO, ILL., Sept. 25, 1916.

To the Editor: A marked copy of your journal just received and I beg leave to make these few remarks. Some time ago I was asked by Dr. Lanphear to read a paper before this new organization and I consented. Your article was the first intimation of any kind whatever that I have had concerning the motives of this new society. I had received no literature and no form letter that you speak of, and being in ignorance of same thought that the organization was strictly ethical. I have this day written to the doctor telling him that I could not read a paper before this society. Knowing that you will appreciate the false position that I have been placed in, I am,

Very truly yours,

(Signed) THOMAS H. KELLEY.

IS NOT A FEE SPLITTER

CHICAGO, ILL., Sept. 29, 1916

To the Editor:—My attention has just been called to your editorial in the September number of *THE JOURNAL*, on "Fee Splitters Organize." I have also received a letter from Dr. Craig, Secretary of the American Medical Association, asking as to my position in the matter. I have answered in full, and I believe have satisfied him that I was the victim of a misapprehension, not to say a misrepresentation.

In June I received an invitation from Dr. Lanphear of St. Louis, to furnish a paper for the October meeting of the Medical Society of the United States. I have so many similar requests from medical societies and medical journals that a suspicion as to the character of this society and its relation to the medical profession was never raised in my mind. Your editorial, however, makes it very evident that this society is especially backing a special and extreme propaganda with which I am wholly out of sympathy.

Naturally, my medical friends are wondering if I stand for this fee splitting propaganda. I do not. I never have. I am in perfect sympathy with the position which the A. M. A. has held from the first on this matter. While I promised to furnish a paper to be read by their secretary, I had no knowledge of their society. I do not wish to be classified as favoring the propaganda. I have written to Dr. Lanphear, stating that I had been laboring under a misapprehension, that I would not send a paper to be read at their meeting, and asking that my name should not appear on their official program.

Yours sincerely,

(Signed) WINFIELD SCOTT HALL.

MISCELLANY

RECIPROCITY

On an average of twice a week the officers of our Society are requested to endorse reciprocity papers for some one of our members who desires to locate in another state. Practically all state boards in considering reciprocity papers now require the endorsement of the medical society in the county from which the applicant comes. This is the most direct and dependable method by which they can acquaint themselves with the applicant's past record and prevent disreputable medical men from shifting their field of operation from one state to another.

Several times within the past two weeks non-members have come to us with letters signed by three, four or more active members, requesting us to endorse their papers. In each instance we have been obliged to refuse on the ground that no matter how well we may know them or how excellent their qualifications may be we have no authority, acting as offi-

cers of the Society, to vouch for men outside of the Society.

The examining boards of other states appreciate the fact that it is practically impossible for a physician to "go it alone" and keep up with the procession. They realize that the most capable and efficient men in any given locality will be found among the regular attendants at the meetings of the local medical society and that they are better men for this intimate association with their fellow practitioners. For these and other equally good reasons they demand that an applicant for reciprocity shall bear the stamp of approval of his county medical society.

This is an excellent argument to persuade your friends to apply for membership now and not when they find themselves facing a delay of four to six weeks while meeting the requirements for membership.—*Bulletin St. Louis Medical Society.*

DRUGGISTS HAVE A GRIEVANCE

We take the following from the *Weekly Bulletin* of the Department of Health of New York City:

Since the beginning of the present year, the department of health has been sending to every drug store in the city a copy of its Monthly Bulletin, a publication "which aims to enlist the cooperation of druggists in public health work by presenting to them an account of those activities of the department of health which pertain largely to their work." As indicative of the interest which the druggists have shown in this publication mention may be made of the large number of letters sent to the editor by druggists throughout the city.

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meals

Here is one which should be of special interest to our physician readers. It voices the experiences of many druggists, and undoubtedly calls attention to a just grievance.

"How much longer shall we have to tolerate the unprofessional and unscrupulous actions of certain doctors toward the pharmaceutical profession?

"I have repeatedly been asked to fill prescriptions calling for preparations that I never have heard of in my twenty-three years' experience as a druggist both here and in Europe. I am convinced that certain doctors associate themselves with the manufacturers of these preparations and then devote their attention to prescribing the products of these manufacturers. Almost invariably these preparations are obtainable only at certain places, and are sold at exorbitant prices.

"I would like to know what we are to do with our pharmacopoeal and national formulary preparations? Enclosed is a sample prescription recently presented to me. I referred this to Schieffelin & Co., one of the largest drug jobbers in the United States, and was informed after the lapse of a week that they were unable to supply the preparation called for.

"This form of imposition on the part of unscrupulous [or thoughtless?—Ed.] physicians is so common that I suggest your giving the matter wide publicity."

JUDGE DYER AGAIN FREES LLOYD

Dr. H. Charles Lloyd, against whom numerous indictments have been returned and who has frequently been arrested for various causes during the past few years, has been again turned loose on the public through a legal technicality.

Judge D. P. Dyer sustained the defense's demurrer recently in the United States District Court in which it was claimed the wording of the indictment which charged Lloyd with promising to cure "various and divers diseases" was too indefinite.

This is the second time an indictment growing out of the same charge against Lloyd has been dismissed by Judge Dyer. Oct. 14, 1914, Judge Dyer dropped indictments against nine advertising physicians because the names of "certain persons" to whom they wrote fraudulent letters were not contained in the bill.

After a long delay and at considerable public expense new indictments were drawn and most of the quacks pleaded guilty—were fined and their licenses to practice medicine were subsequently revoked.

Judge Dyer later on instructed a jury in his court to bring a verdict of not guilty against a homeopathic physician indicted for sending out "Lost Manhood" letters on the ground that there was a difference of opinion on the question of the value of the advice contained in the letters and that as far as he could judge the opinion of one physician was as good as that of another. Those who testified that the advice was wholly and entirely fraudulent and could not be given by any honest man were Drs. W. John Harris, Baylis Chamblin, C. J. Luyties, H. J. Scherck, Frank J. Lutz and R. Emmet Kane. Those testifying that the advice was correct, proper and in accord with their own practice were F. W. Kirsch, Edward F. Brady and L. M. Ottofy.

If the witnesses in the case against Lloyd are still alive, Assistant U. S. Attorney Benjamin White announces that he will make an effort to draw up an indictment that will stand microscopic scrutiny.—*Bulletin St. Louis Medical Society.*

A WARNING

We are obliged to call attention of our readers once more to the taking of subscriptions to the *Medical Record*, *The American Journal of Obstetrics and Diseases of Women and Children*, or the *British Journal of Surgery* by unauthorized persons. There has for a long time been an organized band of these rascals working the cities and larger towns in many sections of the country. Their scheme, or one of their schemes, is to represent themselves as an association of indigent students (the latest one we have heard of calls itself the "Western Students' Benefit Association") who are given free tuition in a medical college in return for a certain number of paid subscriptions, new or old, to either or all of the above-mentioned journals. They thus work on the sympathies of their dupes who feel they are helping deserving young men to get a medical education, while at the same time they are treating themselves to some of the best obtainable medical literature. The latest trick is to offer a physician whose subscription happens to be overdue a receipt in full for the payment of \$4.25; naturally such a generous offer is accepted in many cases. We would again warn our present subscribers not to give money for renewals to any but our authorized agents, or preferably (as a forged

authorization may be presented) to send it direct to the subscription department of one or the other journal. As to the intending new subscribers, we are doing our best to protect them by notifying the police of the cities where these gangs of sharpers are working. We would also suggest to our friends that they would be doing a favor not only to us, but, and especially, to their colleagues if they would speak of this matter in their society meetings, cautioning their fellow-members never to pay money for books or for subscriptions to this or any other journal to any but authorized agents of the publishers. By giving such warning they would help the readers not only of this but of other journals, for the subscribers to several of our contemporaries have been defrauded in the same way and by the same persons.—*Medical Record*.

"CHIROPRACTICS" IS "PRACTICING MEDICINE" IN UTAH

Utah Laws 1911, Chapter 393, provides that any person shall be regarded as practicing medicine who shall diagnose, treat, operate on, prescribe, or advise for any physical or mental ailment of any abnormal mental or physical condition of another after having received or with intent to receive any compensation, or who holds himself out as a physician or a surgeon. The Utah Supreme Court holds that a "chiropractor," one professing a system of manipulations which aims to cure disease by the mechanical restoration of displaced or subluxated bones, especially the vertebrae, to their normal relation, who advertised as a "Graduate chiropractor—no drugs or surgery, or osteopathy—try chiropractic," and who endeavored not so much to cure ailments as to permit the natural "vital forces of the body," impeded by luxation of vertebrae, to proceed unhindered to any diseased part on readjusting the displaced vertebrae with his bare hands, for which he received compensation, was "practicing medicine" within the statute, since he "diagnosed" the symptoms of his patients by recognizing the presence of disease from its signs or symptoms in deciding as to its character, and thereafter treated them for compensation. "There are," the court said, "many ailments in their acute stages which, if correctly diagnosed and properly treated, yield most readily, but if not recognized and not properly treated become in their chronic stages most stubborn and unyielding. The defendant undertook to treat various ailments of children without even professing any knowledge of pediatrics, and many other ailments where knowledge of histology, biology, pathology, and other branches of science was essential to properly recognize and understand them. It needs no argument to show the harm that may result by anyone without knowledge of ophthalmology attempting to treat some acute and virulent disease of the eye by attributing the cause of the disease to a subluxated vertebra of the neck causing nerve pressure, or that the manipulation to reduce the pretended subluxation might itself do harm, but that in the meantime the disease, for want of recognition and proper attention, may have progressed to a stage where it no longer can be arrested."—Board of Medical Examiners of the State of Utah vs. Freenor, 154 Pac. 941.—*Medical Record*.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL, 1916

(UNDER THIS HEAD WE LIST THE SOCIETIES WHICH HAVE PAID THE STATE ASSESSMENT FOR ALL THEIR MEMBERS)

- Webster County Medical Society, Dec. 15, 1915.
 Benton County Medical Society, Dec. 16, 1915.
 Cape Girardeau County Medical Society, Dec. 19, 1915.
 Schuyler County Medical Society, Dec. 22, 1915.
 Atchison County Medical Society, Dec. 27, 1915.
 Clark County Medical Society, Jan. 1, 1916.
 Madison County Medical Society, Jan. 10, 1916.
 Clinton County Medical Society, Jan. 11, 1916.
 Sullivan County Medical Society, Jan. 17, 1916.
 Phelps County Medical Society, Jan. 17, 1916.
 Camden County Medical Society, Jan. 18, 1916.
 Dent County Medical Society, Jan. 31, 1916.
 Barton County Medical Society, Feb. 3, 1916.
 Moniteau County Medical Society, Feb. 7, 1916.
 Henry County Medical Society, Feb. 21, 1916.
 Putnam County Medical Society, Feb. 24, 1916.
 Pulaski County Medical Society, Feb. 28, 1916.
 Vernon County Medical Society, Mar. 3, 1916.
 Ste. Genevieve County Medical Society, Mar. 15, 1916.
 Cooper County Medical Society, Mar. 30, 1916.
 Montgomery County Medical Society, April 4, 1916.
 Ralls County Medical Society, April 6, 1916.
 Livingston County Medical Society, April 12, 1916.
 Macon County Medical Society, April 14, 1916.
 Dekalb County Medical Society, April 17, 1916.
 Wright County Medical Society, April 25, 1916.
 Carter-Shannon County Medical Society, April 26, 1916.
 Greene County Medical Society, April 28, 1916.
 Iron County Medical Society, April 28, 1916.
 Platte County Medical Society, April 28, 1916.
 Grundy County Medical Society, May 3, 1916.
 Adair County Medical Society, May 5, 1916.
 Lafayette County Medical Society, May 5, 1916.
 Cass County Medical Society, May 15, 1916.
 Johnson County Medical Society, May 20, 1916.
 Ray County Medical Society, May 29, 1916.
 Cole County Medical Society, Oct. 28, 1916.

THE SURGEONS CLUB OF ST. LOUIS

March 15, 1916

DEMONSTRATION OF PATIENT ON WHOM COMMON BILE-DUCT WAS RECONSTRUCTED.—By DR. FREDERICK HAGLER.

Mrs. R., white, aged 38, was admitted to the second surgical service at the City Hospital on Oct. 6, 1915, with a history of an illness that dated from September 27. The onset was sudden with pain in the right hypochondriac region, vomiting, and after a couple of days of illness, jaundice. The pain radiated to the right shoulder, the back and the right arm. The vomiting intermittent and the jaundice also varied. There was marked tenderness and rigidity over the gallbladder region and the epigastrium. Roentgen rays were negative as were also analyses. Diagnosis, gallbladder disease, suspected cholecystitis. Operation,

Oct. 18, 1915. Numerous dense adhesions were encountered between the stomach and the liver and between the gallbladder and the duodenum. All the structures in the right hypochondriac region were very densely matted with adhesions. These were freed, the gallbladder dissected free and what appeared to be a fistula between the gallbladder and the duodenum was revealed. The gallbladder was excised and a second opening into the duodenum was found, probably traumatic. A tube was put into the common bile-duct and the openings in the duodenum repaired. On account of the friability of the tissues where there had been adhesions this repair was not satisfactory so that a gastroenterostomy was hurriedly made by means of a Murphy button.

The patient developed a bronchopneumonia and after that a moderate peritonitis with vomiting, some distention, and even before the tube came out of the common duct very profuse biliary discharge. After the tube was removed there was apparently a complete biliary fistula. No bile appeared in the stools. In addition to the discharge being biliary, it seemed also to be duodenal secretion in part as a very large area of abdominal skin was digested off. She improved and the wound healed, leaving a fistula. The Murphy button was passed on the forty-first day and the patient gained very slowly in strength, but still complete biliary fistula, no bile at all in the stools and intermittent profuse discharge—no discharge on one day but the next day the dressings and the bed would be literally flooded with bile.

On Jan. 3, 1916, a second operation was made and we found a fistula from the common duct which resulted from a very large defect of the lower part of the duct just above the entrance into the duodenum, or, at least, there seemed to be an absence for at least 2 cm. or more. On account of the friability of the tissues, there seemed to be no chance for immediate anastomosis and implantation, so a rubber tube catheter with a large fishtail end was inserted into the common duct above and left in the duodenum. The tube was left protruding several inches into the duodenum with the expectation that the peristaltic pull after the chromic sutures had loosed would pull the tube into the duodenum and that it would be passed. Chromic catgut sutures were used to fix it in the hope that they would not be absorbed until such time as a permanent channel might have been established.

The patient recovered from the second operation very rapidly, had no discomfort, and her convalescence was gratifying. Her wound healed, she had no discharge of bile at any time, and she was discharged from the hospital on February 18, about six weeks after the second operation, apparently in good condition, having gained several pounds in weight. The Roentgen ray showed the rubber tube still in its original position in the common duct and in the interval between February 18 and March 10 the tube was passed.

Of course, one cannot draw definite conclusions from a single case of this sort. It is reported simply as one that has proved to be exceedingly gratifying in a condition where one usually feels that there is not much held out. There was an article recently in *Surgery, Gynecology and Obstetrics*, by one of the Mayos on reconstructive surgery of the biliary passages in which he spoke of using T tubes in a condition of this sort; but we had no T tube available, and this was used as being the best we could do. There is just one possible fly in the ointment, that is the possibility that as time goes on there may be some contraction and obstruction. From the length of time that the tube was in place, which was more than six weeks, I am hoping that a permanent patency of the common duct will have been assured. The excuse for showing the case and commenting on it is simply

to demonstrate that it is really possible to do something in this sort of case by employing, perhaps not a particular method but a method something after this sort. I claim no originality for this particular procedure but I do not happen to have seen it before.

DISCUSSION

DR. JOHN C. MORFIT: Do I understand that you put the tube in after doing a lateral anastomosis with the common duct and the duodenum?

DR. HAGLER: No, there was an absence of the common duct in the lower part immediately above the duodenum for a distance of about 2 cm. or more, and the tube was simply put in the open end and fastened and then the length of tube was thrust through the opening into the duodenum and allowed to slip down; then the duodenum was approximated to the common duct and to the structures round about. The common duct could not be mobilized, on account of adhesions and friability, sufficiently to bring it down and together, and this was done more to bridge over other tissues around. A part of omentum was also used in reinforcement.

DR. ERNST JONAS: Could the duodenum not have been mobilized and brought up and an anastomosis made between the duodenum and the common duct with a Kocher incision?

DR. WILLARD BARTLETT: What was in the gallbladder?

DR. HAGLER: We found no stones. In the fistula there had probably been stones which had penetrated into the duodenum.

DR. BARTLETT: Was it a thickened, shrunken gallbladder?

DR. HAGLER: Yes.

DR. BARTLETT: And what was in the common duct?

DR. HAGLER: The common duct was empty.

DR. BARTLETT: There was no stone in the lower part of the duct; at least, you could not find any?

DR. HAGLER: No.

DR. BARTLETT: I consider this the most difficult type of gallbladder disease, in which there exists an opening between the gallbladder and the duodenum in an acute or subacute condition with the walls of the gallbladder and of the duodenum greatly thickened and friable, as Dr. Hagler says. I think Dr. Hagler not only had rare good luck, but must have done mighty good surgery not to lose the case. Practically all these cases die where the duodenum has been torn in the course of an operation in the acute or subacute stage of the condition. The thickened walls can be repaired only with difficulty and do not hold.

DR. WILLIS YOUNG: Is there any evidence in these Roentgen-ray plates to show that the gastroenterostomy opening has closed or diminished in size?

DR. HAGLER: I am very sorry that studies were not made on that point before she left the hospital after her last operation.

DR. BARTLETT: I happen to know a little of the literature of this very ingenious procedure that Dr. Hagler did. The first that ever came to my notice was reported at the 1912 meeting of the American Medical Association, when an assistant of Dr. Burroughs, of New York, told of using a tube to connect the common duct with the duodenum. Since that time Burroughs reported two or three cases—he had done the one reported by this young man—this last year, I think in *Annals of Surgery*, and then a man at Schenectady has done one. The consensus of opinion as far as I can get it from reading is that they do contract down. But it certainly does good, and, an important thing, if the tract is short enough a permanent result might be obtained.

DR. HAGLER: We usually think of a gallbladder as coming down but as a matter of fact that does not always hold. In this case it was far from true because at the second operation it was found that the gallbladder seemed to have swung around and it is barely possible that what appeared to be fistulous openings were actually made in the dissection, that the opening observed was where the tube had entered originally at the first operation. But after the second operation, when the places were repaired the duodenum was fixed even more than at first. One of the most striking features is the fact that on the second day after the second operation an enema by its color showed that the bile had already gotten through.

PRESENTATION OF PATIENT DEMONSTRATING PLASTIC OPERATION FOR REPAIR OF RUPTURED URETHRA.—By DR. ROLAND HILL.

Some few weeks ago I presented a case of very severe urethral injury and secured the opinions of the members as to how best to correct the defect. Since then I have operated on the patient and have him here to show to you. This young man was injured by gunshot. The first thing that was done was to fill the bladder with boric acid, then introduce a trochar above the defect and through the trochar we placed a self-retaining catheter. The next step was to cut the scar tissue behind where the end of the organ was retracted and loosen it, increasing the space to almost two inches in length. The next step was to make an incision through the scar tissue leaving a space which was meant to be the route of the urethra. When this was done the tissues were loosened so that the surface was raw, and behind where the urethra came through (the sphincter of the bladder was not injured) a flap was taken from the skin of the under surface of the organ, turned back and stitched along the raw space. I may say that first of all a solid bougie was introduced through the penis into the bladder, stitched over with fine black silk so that the under surface of the penis formed the inner lining of the new urethra. Then the soft tissues of the scrotum were pulled over so as to make another layer and the skin of the scrotum was brought over and fixed so that we had the skin of the under surface of the penis forming the inner surface, the soft tissues of the scrotum another layer, and the third layer formed of the skin of the scrotum which was pulled away over behind the inner layer of the sutures. The self-retaining catheter was left in for about ten days when it became encrusted in spite of all we could do and had to be removed. Then the bougie was removed and the catheter introduced through the penis. This was kept in for some time and removed every few days. Since then he has been treated by Dr. Burford, who has dilated the urethra. I think you would all be willing to say that the result secured is satisfactory. At times, after stretching, he may have a trifling leak, but it will soon cease and practically everything comes in the normal way.

A METHOD OF FACILITATING INFILTRATION ANESTHESIA.—By DR. WILLARD BARTLETT.

The prominence that has been given to infiltration anesthesia since the introduction of novocain with the addition of adrenalin has made all of us wish for a little more handy means of administering the drug. When I first saw infiltration anesthesia used it was done with an ordinary hypodermic syringe with an enormous number of introductions of the needle and was a very tedious procedure. I think it has only been since the use of larger syringes and longer needles that we have attained that measure of success which justifies the procedure. Now after using for a good while a 10 c.c. syringe with needle 9 cm.

in length, we came to the conclusion that while this relatively large syringe and long needle was an improvement the refilling of the syringe was a matter of some import, that a good deal of time was lost through the filling and considerable discomfort was occasioned to the patient, so we looked around for something better.

The two most accepted ways of filling the syringe are, either a screw needle, or a slipon needle with some such syringe as the Record syringe. If you use a Record or other syringe with a slipon needle you will be constantly blowing off the needle because as you press the piston down the pressure within the instrument becomes too great unless you hold the instrument rigidly down. However, that method has the value that one can after exhausting the syringe quickly slip it off the needle. But with the screw on needle one has either to unscrew the syringe from the needle if he wants to fill it rather rapidly, or withdraw the needle every time he fills the syringe, which is accompanied with at least a possible discomfort to the patient as the needle is reintroduced, and in filling such needles he is always breaking or bending or dulling his point.

Then we tried to use two complete syringes and needles, having an assistant fill one while the other is being injected, but even with that you are constantly reintroducing the needle to the discomfort of the patient and with a likelihood of infecting the patient through the many passages of the needle through the skin.

We use three sizes of needles. A little intradermal bleb is first made with a very tiny hypodermic through which the next sized needle is plunged. Then there is a middle sized needle which is used on fingers, etc. We have a two-way cock which is put in the position for filling. Of course, the rest will suggest itself. Withdraw, the assistant turns cock, it is filled quickly, the assistant turns cock and the fluid is injected, fill quickly without removal of the needle, and very easily, through one needle puncture and almost as fast as you care to move the piston up and down, the novocain is injected. Thus a simple thing has cut down the length of time it takes us to anesthetize and shortens the length of the anesthesia. Having something of this kind to work on, one employs the method more freely—of course, with indications.

In looking up the literature I found nothing anywhere except in Braun's second edition. I do not know why he does not put it in his third edition. In the latter volume Braun mentions having used an automatic cock and ball valve, but he says enough accumulates in the valve so that it does not hold tightly and that has prevented me from trying it.

DISCUSSION

DR. ELLIS FISCHER: Braun dropped this method for a very good reason, because he found he had gone a long way about to get something that did not help him in his work. It is very true that an ordinary Record syringe with the push needle is not very good for doing extensive infiltration such as you do for gallbladder, appendix, stomach, or goiter operations, because you will use 40 to 80 c.c. of fluid; and even if you have two you will push off and in and squirt the anesthetic all over the table. But there is a syringe made with a push needle that fastens very simply and can be used if one objects to taking the time to use a screw needle. This needle has a slit in the cap and a little notch on the end of the syringe so that it catches over that notch and cannot be pushed off without turning the needle perhaps 180 degrees. There are no screws and the fastening is very much like that used on many of the electrical apparatus for cystoscopes and proctoscopes—a push-on snap.

There is the other objection of reintroducing the

needle. If you have two of these metal syringes and the assistant holds one while the other is in use, the needle can be left in place; and it does not take more than perhaps half a minute, as a liberal allowance, to screw the syringe on the needle while it is in place. In these extensive operations for which this apparatus is designed it is always necessary to insert the needle through at least four different points if the Braun technic is used, so that the line of incision is circumscribed in a square, diamond, rhomboid, or some shape which uses at least four different points of anesthesia. You make the four wheals and insert your needle through each one and go in different directions.

Of course I am glad to see that the extent of the work under local anesthesia is rapidly widening because I am more or less of an enthusiast on the subject, so I am very glad Dr. Bartlett has taken it up in the expert manner he has and has given his attention and genius to perfecting a method, but I feel that in two or three months, maybe days, he will stop using the apparatus he has shown us tonight.

DR. WILLIS YOUNG: What is the average amount of local anesthesia used in goiter operation? I mean the solution.

DR. BARTLETT: About 80 c.c.

DR. FRANCIS REBER: The only objection I would have in regard to this instrument is that you must have an assistant at your elbow. As Dr. Bartlett has demonstrated it I could not help but think what an admirable thing it would be for injecting boiling water into angiomas. The great difficulty in that work is that you do not get it in hot enough. Dr. Wyeth now has a little lamp burning in his metal syringe and says it is sometimes very difficult to handle this syringe because it is so hot. Now if we take this receptacle of Dr. Bartlett's, put a flame under it, boil the water and inject it with the syringe with a stop cock it would be absolutely certain that you could get that water boiling hot into the angioma. I think the first opportunity I have I will try it and see how it works out.

DR. CARROLL SMITH: This brings up the question of different kinds of local anesthetic devices. I want to describe one that I have found most useful in this work. It is called the hammer syringe. I first saw it used by Ochsner and to my mind it is the ideal local anesthesia syringe. It can be made any size, the piston ground to fit any barrel. I have one that I have had for five years and it is perfectly airtight. The needle is long and thin and has a little lead head on the end and by a screw arrangement held so there is no leaking and it cannot blow off. The needles are usually small and of such good steel that they can be bent around like wire without breaking them, and they are so small that I never worry about injuring blood vessels. The filling is made through a little hole in the back of the syringe by a large pipet. Simply pull back the piston, take a pipet that will hold ten c.c. and you are ready to work again. Dr. Fischel spoke of the needle entering in different areas and I agree with him that any extensive infiltration if done by the Braun method requires at least four punctures and after the four quarters are made there is no discomfort to the patient.

I have never hesitated to use 100 to 150 c.c. of novocain. I have injected $7\frac{1}{2}$ grains intravenously and except that I once saw a rather anxious expression on the patient's face I have had no trouble if injected with the proper amount of suprarenal.

DR. ERNST JONAS: Dr. Matas recommends an apparatus for refilling the syringe which differs from the apparatus of Dr. Bartlett in that instead of having a two-cock piston and a syringe which is filled by suction the apparatus is under compression. It can be used with any syringe, Matas says, and you do not need another syringe, but just the needle which is attached to a tube. This apparatus is mentioned

in the Braun book and is very extensively described in Allen's local anesthesia. As to the quantity of novocain, Braun says he frequently uses 250 c.c. of $\frac{1}{2}$ per cent. solution of novocain. I have used frequently up to 200 c.c. and have never seen any damage done. If we use a stronger solution than that we find we can use 125 c.c. of 1 per cent. solution or 60 c.c. of 2 per cent. solution; but of the weaker solutions we can use large quantities. The maximum quantity of novocain is said to be 5 grams.

DR. H. S. MCKAY: I had the opportunity of seeing Dr. Bartlett use this apparatus on an appendix case and on a goiter case. It seemed to me that it facilitated the infiltration of the anesthetic and I have not heard anyone so far as I can judge bring any definite criticism of this apparatus. It seems to me from what I have seen that it shortens the time needed for the anesthetic and facilitates the introduction of the anesthetic.

DR. J. MCH. DEAN: As to time, what difference does it make if it does take five or ten minutes for local anesthesia? If the patient were under general anesthesia it would be different. With this apparatus you need two or three assistants. I would like to ask where the gentleman has been able to get the novocain?

DR. CARROLL SMITH: In regard to time, I have seen many men using local anesthesia not wait for the anesthetic to be complete. They take a syringe, inject, reach for the knife and begin to cut. If the anesthetic is allowed to soak through the tissues it takes at least ten minutes; so that I feel there is no need of hurrying with the anesthetic because all the time you are working the anesthetic is infiltrating the tissues and facilitating operation. I am talking now about the so-called Braun method.

DR. BARTLETT, closing: I am glad indeed that Dr. Smith brought up the last point because I do not refer to the Braun method. I have Braun's book, have carefully studied the method, and have seen Dr. Fischel use it. I do not use it, but directly infiltrate the line of incision. There would be no advantage in using the apparatus with the Braun method of blocking a circle or square. I have had a local anesthetic administered to me and I assure you that any time saved in the procedure is very grateful to the patient. One does not want it going on an instant longer than is necessary. If we save five to ten minutes on a patient, we save our time, our nerves, our strength.

STEREOPTICON ILLUSTRATIONS OF THE METHOD OF CAUDAL ANESTHESIA.—By DR. BRANSFORD LEWIS.

The subject of caudal anesthesia was first brought forward in 1901-03 by the use of normal saline solution in the sacral canal for the purpose of doing away with the nervous affections connected with the genital tract in both female and male subjects where there was neurosis or a high degree of instability, too frequent urination and sometimes a reflex nervous condition. It was found that these conditions could often be relieved by the injection of 25 to 50 c.c. into the sacral canal. Then local anesthesia was used in this way but without much success so it was dropped for a time.

A year ago I noticed an article in *The Journal A. M. A.* by Dr. M. L. Harris, of Chicago, who had had a slight experience with it at that time. We then began a series of investigations during the summer which gave us a very fair impression as to the efficiency of the method, but for various reasons there were failures although in a proportion of 75 per cent. we had a success that was extremely satisfactory. It was particularly satisfactory when we had to do

with decrepit individuals who already had a foot in the grave, so to speak. The other foot would have been assisted into the grave by the use of a general anesthesia such as ether or chloroform, sometimes even gas-oxygen unless in very skillful hands. Our impressions of this method were very favorable because it was used in some of these debilitated individuals in prostatectomies without any shock, when a general anesthesia would have been attended with some danger.

We do not get anesthesia in every case. In some cases where we were anxious to have a complete and satisfactory caudal anesthesia it was a failure for the reason that when we infiltrated the anesthesia got into the spine, there was still tenderness in the bladder and in the prostate; and then we had to resort to ether, but with the difference that much less was needed than would have been without caudal anesthesia. In other cases, doctors who had been dubious said they were astonished at the complete success of the method and in certain instances patients who had obliged me to give the general anesthesia after they had experienced cystoscopy under caudal anesthesia have said that was preferable. From my present experience I would say that it is successful to a satisfactory degree in about 85 per cent. of the cases, and partial failure in approximately 15 per cent. If we do not get a saturation we are not liable to get the effect. In one case we noticed a peculiar bulging of the external surface and following it up we found the fluid simply disseminated through and we failed to get anesthetic effect. Of course there is no objection to its saturating the canal.

At first we gave about 30 c.c. of 2 per cent. solution. Later we increased the amount and decreased the strength, giving 40 to 60 c.c. of 1 per cent. solution, and latterly we have been giving 75 to 90 per cent. of 1 per cent. novocain, 1 per cent. sulphate of potassium, to which we added 1 to 2 drops of adrenalin, so that the novocain is 0.5 per cent. That at present gives us the best results.

We have seen no deaths from caudal anesthesia so far. We eliminate the danger of spinal introduction in the way I have shown and I think there is no danger if the needle should enter the spinal canal. I think that by further study of the technic we shall reach nearer complete success. I do not believe it is as dangerous or as difficult as many other anesthetics and one may use it to great advantage in weakened cases.

DR. WILLIS YOUNG: What is the proportion of the mixture you use?

DR. LEWIS: One per cent. of each of novocain and sulphate of potassium and from one to two drops of 1:1,000 adrenalin solution, 30 c.c. of that combined solution.

DR. BARTLETT: I have not used this method. Dr. Fischel and I tried it the other day but we came to the conclusion that our technic was not good.

DR. WILLIS YOUNG: Perhaps you do not get so many deaths from the use of this benign agent novocain as an anesthetic, but there are some disadvantages. My observation has not been wide enough to permit me to say much but I have observed one disadvantage with the use of the local anesthetic novocain which I have noted on several occasions, that is nausea. I do not know whether it would be a particular disadvantage in the application of novocain for caudal anesthesia and neither is it a particular disadvantage in goiter operation unless vomiting should occur. There have been enough instances of nausea incident to the use of anesthesia by the local method, frequently but not invariably preceded by hypodermic of morphin and atropin or morphin and scopolamin, to make me uneasy and I think that nausea was one of the disadvantages of local anes-

thesia, due, in all probability, to the psychic effect on the patient of these various procedures.

DR. WILLIAM S. DEUTSCH: I would like to ask Dr. Lewis whether in any of these caudal anesthetics he ever got any lasting paralytic effect on the lower extremities or anything that approached it?

DR. FRED. HAGLER: My question is along the line of Dr. Deutsch's, in regard to the extent of the anesthesia. I take it that is an anesthesia of the perineum and rectum, possibly bladder. I fancy the lower extremities are not affected in that these nerves come off higher up. It seems to me there might be a paralysis of the bladder lasting long enough to give trouble from overdistention.

DR. ERNST JONAS: I would like to ask if the anesthesia is always equally distributed to both sides? I have had the experience in spinal anesthesia several times of unequal effect. One case was a little boy who had had both legs badly injured. On the side on which the boy was lying we had complete anesthesia, but on the other side there was no anesthesia at all; and as I listened to Dr. Lewis' remarks this case came back to me; it seems to me that if the pressure is not extremely steady the lower side might be more anesthetic than the upper side.

DR. ELLIS FISCHEL: I have been interested in this anesthesia since 1911 or 1912 when I saw it used in the clinic at Freiburg but I was deterred from trying it because of the extreme amount of preparation of the patient, such as bromids, etc., the day before, and heavy doses of morphin and scopolamin the day of operation. When the patient reached the operating room he was in a distinctly comatose condition. They had an iron frame affair and the patient in his sleepy condition sat in the chair on his hands and knees, then some boy turned a crank and the patient was turned bottom side up and the injection made. They always gave ether and chloroform in addition. Others also went through a long preliminary stage and I knew it could not be carried out here so I never tried it until about ten days ago when Dr. Bartlett asked me if I would give that anesthesia if he would provide the patient. I told him yes. So he furnished the patient and I furnished the novocain, potassium sulphate and needle and syringe. There was no trouble about getting into the sacral canal, and things went along fine. We injected 60 c.c. of the mixture Dr. Lewis mentions, but owing to too many fingers in the pie somebody forgot the adrenalin and there was no anesthesia. That was the first case I have had. I have had 100 per cent. failures, which is high, but I certainly intend to try it every time Dr. Bartlett will provide the patient.

DR. LEWIS, closing: In the successful cases the area anesthetized includes the perineum. The anterior part of the urethra is not anesthetized. The anesthesia lasts when successful for several hours so that the patient goes through the operation without any pain, gets to bed and there is no pain until four or five hours after, but there is generally pain after any anesthesia when the patient wakes.

We have used morphin and have had nausea at times, so that we have had discussion among ourselves as to whether it was the morphin, the excitement or the novocain.

We have not observed any paralytic effects nor any lasting incapacity. When the patient in the administration of the medicine begins to complain of pain in the legs, we look on that as a good omen; we have noticed a larger percentage of success when that happens. We have not noticed any difference between the two sides. We have not paid much attention as to whether the rectum would be satisfactorily anesthetized or not. In one case in which Dr. Bartels attempted to give anesthesia for rectal carcinoma, it was a failure. The woman was tre-

mendously excited, was in rather a hurry about it, and we really did not have a fair show in that instance.

The lasting qualities are good. That is one of the recommendations of the method. The sulphate is put in to increase the holding qualities, giving it a little more body and promoting the lasting qualities.

There is one thing yet to be answered. In an experience of fifteen to twenty years I do not think I recall more than one case of an embolus and yet we have had three during the past year since we have been using this technic. Since we have given a preliminary injection of coagulose on the day before we have noticed a great reduction in the tendency to hemorrhages. Yet we have noticed in this series three cases of emboli, one recovering and two dying, and a fourth case in which there was a question as to whether it was an embolus or something else. My personal impression is that it was due to the coagulose effect, that it increased the tendency to clot formation and in a few days embolus developed. I am much more inclined to ascribe it to the coagulose than to the caudal anesthesia; in fact, they did not all have that method.

DR. DEUTSCH: Where did the embolus locate?

DR. LEWIS: Two pulmonary and one cerebral with a paralysis of the arm and leg, but that man survived. One death was about a week after, no hemorrhage, no sepsis, nothing wrong until suddenly he got an excitation of the heart and difficult breathing and died within a few hours. We have stopped using the coagulose because we think it is dangerous in that way.

ROENTGEN-RAY PICTURES OF GANGRENE.

—By DR. J. MCH. DEAN.

As it is late I will be very brief. The patient entered the hospital with a diagnosis of frost-bite a month ago. One toe became gangrenous, but from the history I was not quite sure that the gangrene was due to frost-bite so I had a roentgenogram taken. It shows very clearly the condition of arteriosclerosis. The case is interesting simply on account of the pictures.

ST. LOUIS MEDICAL SOCIETY

Meeting of the General Society, Sept. 16, 1916

The meeting convened at 8:50 p. m., Dr. L. C. Boisliniere presiding.

The scientific program consisted of the following: Focal Infection About the Teeth (with radiographic illustrations), Dr. Virgil Loeb. Remote Effects of Focal Infections About the Teeth, Dr. J. Curtis Lyter. General discussion by Drs. Montague Meyer, Benjamin Shanklin and William H. Stauffer; Dr. Loeb closing.

Dr. Boisliniere read a letter from the Board of Education requesting that a committee be appointed to represent the Society at a mass meeting of all the civic organizations in the city to be held on Monday, September 18, to discuss the three million dollar bond issue for the public schools. The president appointed Drs. William H. Stauffer, Montague Meyer and Moses W. Hoge.

Dr. Boisliniere also read a letter from the Municipal Ballot Conference offering to send a speaker to explain the non-partisan city election system which will be submitted to voters at the election on November 7.

It was moved that this communication be referred to the Health and Public Instruction Committee.

Dr. Kane offered an amendment to the effect that it be referred to the Health and Public Instruction Committee with the request that they secure a speaker

for twenty minutes for the last meeting in September. Seconded and carried.

A letter from Maj. Robert U. Patterson, Secretary, National Committee on Red Cross Medical Service, was referred to the Council.

Attendance 72.

J. ALBERT SEABOLD, M.D., Secretary.

Meeting of Sept. 23, 1916

The meeting convened at 8:48 p. m., Dr. L. C. Boisliniere in the chair.

The scientific program consisted of the following:

The New York Epidemic of Infantile Paralysis.
1. Some Epidemiological Aspects, Dr. Borden S. Veeder, illustrated with lantern slides and charts.
2. Clinical and Laboratory Observations, Dr. Phillip C. Jeans. Discussion by Drs. Zahorsky and Bliss; Dr. Veeder closing.

Dr. Stauffer reported for the special committee appointed to investigate the public school bond issue as follows:

The committee appointed by your president, September 16, to represent the Society at a mass meeting of all civic organizations on September 18, submits the following report:

We believe it to be the duty of the state to afford every individual an opportunity to acquire an education sufficiently adequate to make him an intelligent, law abiding citizen. After a careful investigation we find our physical equipment inadequate to properly care for the children of the city. Many of the smaller children are required to walk a long distance while many more are housed in temporary structures.

We believe that the abolition of our efficient hygienic department as a means of economy would be a long step backward to be deplored by every self-respecting physician.

We sincerely hope that every member of the St. Louis Medical Society will have the inclination and time to acquaint himself with the facts if he has not already done so. The Board of Education will be glad to furnish any facts desired.

WILLIAM H. STAUFFER, Chairman.

Attendance 198.

F. C. E. KUHLMANN, M.D., Secretary pro tem.

Meeting of Sept. 30, 1916

The meeting convened at 8:50 p. m., Dr. L. C. Boisliniere presiding.

The scientific program consisted of a paper on "Infections of the Hands," by Dr. William T. Coughlin, illustrated with lantern slides. Discussion by Drs. Roland Hill, Francis Reder and Major Seelig; Dr. Coughlin closing.

Dr. Henry J. Scherck presented lantern slides of various genito-urinary conditions with a brief discussion.

Dr. William Preston Hill of the Municipal Ballot Conference explained the proposed short ballot. General discussion by Drs. Funkhouser and Seelig. Dr. Funkhouser moved a vote of thanks be extended Dr. William P. Hill. Seconded and carried unanimously.

Attendance 104.

Meeting of Oct. 7, 1916

The meeting convened at 8:40 p. m., Dr. L. C. Boisliniere presiding.

The scientific program consisted of the following exhibition of cases:

1. Case of Rachitis in Colored Child, Dr. Julius Rotteck.
2. Mitral Insufficiency in Child, Dr. Julius Rotteck.
3. Undescended Testicle, Boy of 11 Years, Dr. Julius Rotteck.

4. Osteogenesis Imperfecta, Dr. Charles A. Stone.
5. Calcified Brain Tumor, Dr. Ernest Sachs.
6. A Case of Bone Surgery (removal of part of humerus with bone regeneration), Dr. J. Joseph Link.
7. Case of Myeloma, Dr. J. Joseph Link.
8. Cancer of Lip, Dr. William E. Leighton.
9. Cancer of Face, Dr. William E. Leighton.
10. Cancer in Old Scar on Humerus with Shoulder Girdle Amputation, Dr. William E. Leighton.
11. Case Showing Nerve Anastomosis (Musculo-spiral), Dr. John D. Hayward.
12. Typhoid Ulcer Followed by Perforation and Fecal Fistula and Obstruction, Dr. Carroll Smith.
13. Showing Method of Control of Stomach Cancer Following Radical Operation, Dr. Willard Bartlett.
14. Aneurysm of Subclavian in Which Innominate and Carotid Arteries Were Tied, Dr. William T. Coughlin.
15. Carcinoma of Esophagus (illustrated with Roentgen-ray plates), Dr. Olney A. Ambrose.
16. Three Cases Illustrating the Treatment of Certain Diseases of the Skin by Intravenous Injection of a Foreign Protein, Dr. Martin F. Engman.
17. Suprapubic Drainage Tube, Dr. Francis Reder.

A letter from the Citizens' School Bond Committee pertaining to the school bond issue was read and referred to the Committee on Health and Public Instruction. They were authorized to secure a speaker for the evening of October 14.

Attendance 196.

Meeting of Oct. 14, 1916

The meeting convened at 8:40 p. m., Dr. L. C. Boisliniere presiding.

Dr. Boisliniere introduced Mr. J. W. Withers, Principal of Harris Teachers' College and Assistant Superintendent of Instruction, who addressed the Society on the urgent necessity for the success of the proposed school bond issue.

After the address of Mr. Withers the following resolution was unanimously adopted:

WHEREAS, The present income as provided by law for the maintenance and extension of the public schools is inadequate for its demands, be it

Resolved, That the St. Louis Medical Society is heartily in favor of the proposed bond issue to the end that the high standards which now exist and of which St. Louis is justly proud, shall continue to prevail.

The scientific program consisted of a paper by Dr. V. P. Blair on "The Present Status of the Treatment of Carcinoma of the Mouth in this Community," illustrated with lantern slides.

Dr. Boisliniere advocated the establishment of a clinical week under the auspices of the St. Louis Medical Society.

A letter from Mr. Frederick W. Peabody pertaining to Christian Science lectures was received and filed.

The president announced the meeting of the Central States Pediatric Society on October 17 and 18, and that programs were obtainable at Children's Hospital and from Dr. T. C. Hempelmann, secretary of the society.

Attendance 92.

J. ALBERT SEABOLD, M.D., Secretary.

Meeting of the Council, Oct. 11, 1916

The meeting convened at 8:45 p. m., Dr. L. C. Boisliniere presiding.

A letter of appreciation and thanks from Dr. John J. Miller for electing him to honorary membership was read.

A letter from Dr. John Green, Jr., pertaining to the establishment of a Physicians' Bureau of Business similar to the one maintained under the auspices of the Wayne County (Michigan) Medical Society, was read and referred to the secretary with instruction to obtain all possible information on the subject and present before the General Society.

A letter from the Committee on Red Cross Medical Work of the American Medical Association pertaining to the appointment of a local Red Cross Committee was referred to the president and secretary with power to act.

It was moved that in future reports of the membership committee and discussions thereon take place in executive session. Carried unanimously.

The following applicants were elected to active membership: Drs. Eugene L. Broeker, 2202 North Market Street; Tyre H. Hale, 5755 Easton Avenue; Gerson Feigenbaum, 2904 Dickson Street; Edward N. Snyder, 2233a Harris Avenue; Ludwig O. Muench, 508 Metropolitan Building; Alma C. Smith, 3624 North Broadway; John Leo Tierney, 306 Humboldt Building; Olinda A. Stricker, 5352a Florissant Avenue; Teresa Pell, 4333 Laclede Avenue; Oliver Rosegren, 814 Metropolitan Building; Nathan Kendall Mills, 1012 East Park Avenue, and Clarence Martin, 5049 Kensington Avenue.

It was ordered that the necrology committee be requested to prepare a memorial for Dr. W. S. Allee and present at a meeting of the General Society.

Dr. Bliss reported on some phases of the workmen's compensation law. Dr. Bliss was requested to prepare a report on these matters and present it before the General Society.

The Bartscher Fund committee was empowered to invest funds on hand in securities equally as good as the Arkansas Drainage Bonds.

It was moved the felicitations of the Council be extended to Dr. and Mrs. Schlueter. Carried.

It was moved that the Society offer its auditorium to the American Social Hygiene Association for its annual meeting on November 20 and 21. Carried.

On motion the sympathy of the Council was extended to Dr. Koetter in his present illness.

Councilors present: Drs. Bliss, Burford, Kane, Kuhlmann, North, Richter, Thompson, Boisliniere and Seabold. Councilors absent: Drs. Grindon, Hamel, Hurford, Koetter and Schlueter.

J. ALBERT SEABOLD, M.D., Secretary.

BATES COUNTY MEDICAL SOCIETY

The Bates County Medical Society met in joint session with Henry and Vernon County Societies at Butler in the Court room Sept. 21, 1916. The meeting was called to order at 2 o'clock p. m. by the president, Dr. C. J. Allen. The minutes of the last meeting were read and approved. About forty physicians were present, making it the largest society meet ever held in this section of the state. Those present were Drs. T. McLeMore, G. C. Willson, T. B. M. Craig, J. F. Robinson, W. P. Bradley and J. T. Hornback of Nevada; Dr. A. G. Altham of Metz; Dr. W. Cline of Appleton City; Drs. J. M. Miller and G. W. Berry of Montrose; Drs. R. D. Haire, N. I. Stebbins and F. M. Douglass of Clinton; Dr. J. R. Hampton of Shawnee Mound; Drs. R. J. Jennings and C. W. Head of Windsor; Dr. R. J. Smith of Johnson City; Drs. J. Franklin Welch and E. J.

Goodwin, president and secretary of our state association; Drs. W. J. Frick and Franklin E. Murphy of Kansas City; Dr. C. J. Allen of Rich Hill; Dr. W. H. Allen of Maysburg; Dr. E. E. Robinson of Adrian; Dr. V. J. Cumpton of Pleasant Gap; Dr. C. A. Lusk of Virginia; Dr. H. A. Rhoades of Foster; Dr. N. L. Whipple of Kansas City; Dr. J. H. Williams of Hume; Drs. T. F. Lockwood, J. S. Newlon, T. C. Boulware, E. N. Chastain, T. W. Foster and E. G. Zey of Butler.

Dr. A. G. Altham of Metz presented a case of patella bursae for examination and an opinion for treatment. Dr. W. J. Frick outlined the usual treatment in these cases.

After the discussion of this case Dr. W. J. Frick read an excellent paper on appendicitis and when to operate. This paper excited a lively discussion by every one which proved the interest and importance of the subject. Much good was obtained by every one from this paper.

Dr. Franklin E. Murphy made the most interesting talk ever given to this society on the subject of diabetes. He presented the subject in a most scientific manner, demonstrating the fact that he was master of his subject.

Informal discussions followed, everyone reaping much benefit from the points of interest and from the many questions asked and explained.

Dr. J. Franklin Welch read an excellent paper on "Hygiene and Sanitation," laying particular stress on rural school hygiene and medical inspection of schools. A general discussion followed.

Dr. E. J. Goodwin made an interesting talk on "The Importance of Attending the Local Society Meetings," outlining the various important duties of the physician and the relationship he should hold with his local society. If every physician would just realize the important points that Dr. Goodwin explained he would be a better physician and a bigger asset to his county society.

The meeting adjourned about 5:30 o'clock and the members and their wives went in a body to Elks Hall where the Bates County Medical Society had prepared a banquet for the occasion. This social hour will long be remembered by every one present. It was an informal banquet, every one feeling at home.

Dr. T. F. Lockwood acting as toastmaster after the cigars were passed introduced in turn the excellent short talk men. Without naming the speakers it will be recorded that every doctor at the banquet made a splendid speech, each expressing the feeling that it was the best meeting they ever attended.

Then the toastmaster called on the ladies present to make a speech. Mrs. R. D. Haire of Clinton responding. Mrs. Haire made a splendid talk and her remarks were very fine indeed for the closing thoughts of the day after all had enjoyed a big meeting and the cordial hospitality of the Bates County Medical Society.

The members of Henry County Society extended an invitation to meet with them in the near future. We are looking forward to a grand meeting and a pleasant time at Clinton.

Be it known that this meeting is recorded as the epoch event in the history of our Society.

Come again Henry, come again Vernon!

J. S. NEWLON, M.D., Secretary.

BUCHANAN COUNTY MEDICAL SOCIETY

The regular meeting of the Buchanan County Medical Society was held at their rooms Wednesday evening, September 20, the president, Dr. Charles G. Geiger, in the chair and twenty-six members present. The regular order of business was set aside for the

purpose of permitting Dr. Caryl Potter to present the following clinical cases:

Ankylosis of the knee joint due to tonsillar infection. Plastic operation for the fungating epithelioma of the right eyelid. Ankylosis of the left elbow joint. Specimen of ectopic pregnancy.

The privilege of the floor was extended to the manager of the Physicians Exchange to explain the features and process of handling emergency calls for doctors.

The report of Dr. P. I. Leonard, chairman of the committee for outlining a form of recommendations to the school board, was received.

The following resolution by Dr. Kenney was passed:

Resolved, That our secretary be our Press Committee concerning our society proceedings and that such material as he gives to the press be written.

Resolved, That any member who may give the press information of society affairs be subject to a reprimand by the censors.

A very good paper was read by Dr. H. W. Carle on "Spinal Puncture." This was discussed by Drs. Bansbach, Potter, Woodson, Long, Beard and Byrnes.

W. F. GOETZE, M.D., Secretary.

CAPE GIRARDEAU COUNTY MEDICAL SOCIETY

The Cape Girardeau County Medical Society met at Cape Girardeau October 9, with the following members present: Drs. F. R. Atkins, B. W. Hays, W. N. Howard, J. D. Porterfield, Jr., G. B. Schulz, D. G. Seibert, W. K. Statler, John St. Avit, Jr., G. W. Vinyard, G. W. Walker, R. F. Wichterich, P. R. Williams, Sr., P. R. Williams, Jr., E. H. G. Wilson and W. E. Yount. Visitors: Dr. D. E. Smith of Cape Girardeau, Dr. T. R. Frazier of Commerce, Dr. W. S. Hutton of Farnfeldt, and the guest of the evening, Dr. William Engelbach of St. Louis.

The president, Dr. Schulz, announced that the regular program would be set aside to hear Dr. William Engelbach of St. Louis lecture on the subject of "Internal Secretions." The doctor gave a very able, interesting and instructive talk to the society, showing this to be a very much neglected field and that a closer study of the subject would be of great benefit to us. Numerous questions were asked the doctor and he answered them with satisfaction to his inquirers.

On motion a vote of thanks was extended to Dr. Engelbach and at a later date it is hoped to have him with us again.

E. H. G. WILSON, M.D., Secretary.

JOINT SESSION CASS AND JOHNSON COUNTY MEDICAL SOCIETIES

The Cass and Johnson County Medical Societies, comprising the Fifteenth Councilor District, met in Harrisonville, October 12. The following members were present: Drs. William Beckman, W. F. Chaffin, H. S. Crawford, R. M. Miller, M. P. Overholser, B. B. Tout, J. S. Triplett and A. C. Wunnicke of the Cass County Medical Society; Drs. W. G. Thompson, E. Y. Pare, O. B. Hall and J. W. Bolton of the Johnson County Medical Society. Dr. R. M. Miller, president of Cass County Medical Society, presided and called the meeting to order. Drs. J. Franklin Welch, president, and E. J. Goodwin, secretary of the Missouri State Medical Association, were to have been present, but were unable to be with us on account of the funeral of our lamented treasurer, Dr. Wil-

liam S. Allee. However, a splendid program was carried out as follows:

Loyalty and Cooperation of the Medical Profession in Local Communities, by M. P. Overholser, M.D., Harrisonville.

The Practice of Obstetrics, by O. B. Hall, M.D., Warrensburg.

Gonorrheal Conjunctivitis, by A. C. Wunnicke, M.D., Drexel.

Every paper was of great interest and was freely discussed by all present. The Society considered that the paper read by Dr. Overholser was of such educational value, not only to physicians but to the public, that it was decided to have it published in the county papers and THE JOURNAL of the Missouri State Medical Association.

The following Red Cross Committee was reappointed: H. Gerard, Pleasant Hill; R. D. Ramey, Garden City; S. W. Fair, Belton; R. M. Miller, president, and H. S. Crawford, secretary ex-officio. The following committee on the Missouri Commission for the Blind was appointed by the chairman of the committee: Drs. H. S. Crawford, W. F. Chaffin, R. P. Yeagle, R. M. Miller, A. C. Wunnicke and F. B. Ellis.

The following resolution was adopted:

WHEREAS, Dr. William S. Allee, treasurer of the Missouri State Medical Association and an ex-president of the Association, who has been one of the most faithful and efficient members of our State Association in its work for the betterment of the medical profession of Missouri, was called from his labor among us on October 15, therefore be it

Resolved, By the members of the Fifteenth Councilor District here assembled, that we extend to the bereaved family our sincere sympathy and grieve with them in their great loss. Be it further

Resolved, That these resolutions be made a part of the record of the Society, and be published in the report to THE JOURNAL of the Missouri State Medical Association.

At the close of the program the members were entertained at a dainty luncheon at the Hotel Harrisonville, after which interesting talks were made by everyone present along lines of the progress of medicine and its bright future.

H. S. CRAWFORD, M.D., Secretary.

CHARITON COUNTY MEDICAL SOCIETY

At a recent meeting the following report was adopted:

Dr. John S. Wallace of Brunswick, Mo., the senior member of the Chariton County Medical Society, was born near Glasgow, Howard County, Mo., April 25, 1849, and departed this life on Aug. 26, 1916, while on a professional call. Dr. Wallace was held in high esteem by all who knew him. His congenial spirit and affable manner combined with his strong personality and firmness of character won for him respect and recognition under all circumstances; he was a man of more than ordinary ability and well earned the honors so richly bestowed on him; among these were the presidency of the Chariton County Medical Society, the vice presidency of the Missouri State Medical Association and a seat in the Missouri senate to represent the sixth senatorial district which position he occupied at the time of his death.

WHEREAS, We the members of the Chariton County Medical Society, keenly feel the loss of our distinguished member, and

WHEREAS, The community of Brunswick, Missouri, has lost a much respected and honored citizen, and

WHEREAS, The medical profession of the State of Missouri has sustained a very great loss and his relatives and friends brought low by grief, therefore, be it

Resolved, That we extend to the grief stricken relatives and friends our deepest sympathy and condolence, and be it further

Resolved, That a copy of these resolutions be spread upon our records, a copy delivered to relatives and a copy sent to the Missouri State Medical Journal and to the three Chariton County newspapers, with the request that they publish these resolutions.

J. FRANKLIN WELCH,
A. W. ZILLMAN,
R. F. KNOWLES,
Committee.

CLAY COUNTY MEDICAL SOCIETY

We held a characteristic meeting at the Snapp Hotel, Excelsior Springs, Monday evening, September 25. The local members responded nobly with a good attendance and marked interest in the proceedings. Four visitors were present and very welcome. These were Drs. Estill of Lawson, Yarbrough and Sayre of the U. S. Public Health Service and S. D. Henry of the Springs.

Dr. W. S. Wallace read a paper, "The Proprietary School versus the University." It was intensely practical and interesting. His deductions were that the "proprietary" will soon be among the things of the past. He drew a parallel between medical schools and the academies. The former, he said, depended on environment and material for practical or bedside instruction. He doubted if there was a locality west of Chicago that could meet the requirements of a first-class medical school.

Dr. H. C. Yarbrough approved the paper and dwelt on the need of a federal examining board. He believed in uniform federal laws governing the practice of medicine.

Dr. J. T. Rice spoke warmly of the old preceptor system. He did not admire the crowded universities. He said doctors were born, not made; that the best physicians were not necessarily the best classical scholars.

Dr. E. C. Robichaux said that proprietary schools, like proprietary medicine, were financial propositions. He did not agree that the universities were overcrowded. Dr. Sayre agreed with Dr. Robichaux.

Dr. F. H. Matthews delivered an address from the text, "Why a Quack." His address fitted admirably into Dr. Wallace's paper and bristled with examples gleaned from products of proprietary schools. Some of the answers to state board questions were ludicrous. Those relating to the "coal-tar preparations" came from proprietary diploma mills. So did the fellow who advocated cutting out the cyst for cystitis. Dr. Matthews said the quack existed because of (1) ignorance of the profession; (2) jealousy among neighboring physicians; (3) deficient physical equipment and slovenly kept offices. He believed in fewer graduates and higher efficiency—the higher the better.

Dr. T. N. Bogart believed that a "top-heavy" preliminary requirement limited the number of aspirants, weakened the output of colleges in number and furnished less fighting strength against cults.

Dr. S. D. Henry condemned the "Rexall" drug stores.

Dr. Rice thought quackery existed because of credulity and gullibility of the public.

Dr. Wallace, in closing, commended the first-class proprietary schools. He thought we might go to extremes in long preliminary requirements.

Dr. Matthews, in closing, said: "A young man can attend a university cheaper than he can go to a proprietary. All proprietary medical schools are bound to fail financially."

J. J. GAINES, M.D., Secretary.

HENRY COUNTY MEDICAL SOCIETY

Henry County Medical Society met at Clinton with Dr. Haire in his new office on Wednesday evening, September 13. The meeting was called to order by Dr. Haire who was elected chairman pro tem as neither the president nor the vice president was present. The minutes of the previous meeting were read and approved. Present: Drs. R. D. Haire, A. E. Derwent, J. R. Hampton, A. J. McNees, U. G. Strieby, J. R. Rogers, F. M. Douglass and S. W. Woltzen.

Dr. S. W. Woltzen gave an instructive and entertaining talk on "Hygiene and Sanitation." This was discussed by all present. The secretary read communications, one from American Red Cross Society requesting the appointment of a local Red Cross Committee. Drs. R. D. Haire, A. J. McNees and R. J. Jennings were appointed as a committee for this work.

Dr. Haire had a nice repast set before us which was enjoyed by all and a vote of thanks was extended to him and Mrs. Haire.

Meeting of October 11, 1916

The Henry County Medical Society met in regular session October 11, with fourteen members present as follows: Drs. Head, Jennings, Walton, Blackmore, McNees, Campbell, Cline, Woltzen, Derwent, Barr, Rogers, Smith, Stebbins and Douglass.

Dr. James Rogers of Brownington was elected to membership.

The meeting was called to order by the president, Dr. Head, at 2:15 p. m. The minutes of the previous meeting were read and approved.

Dr. R. J. Smith reported a case of hydatid cysts of uterus which was delivered and made good recovery.

Dr. T. A. Blackmore read a paper, "The Relation of Nasal and Oral Sepsis to Systemic Disease." It was not only well written but showed marked ability and considerable research of the literature on the subject.

Discussion by Drs. A. E. Derwent, A. J. McNees and J. H. Walton. A motion was made and passed to request its publication in the State Medical Journal.

By motion the next Tri-County Medical Meeting of Bates, Henry and Vernon will be held in Clinton, time and program left to the secretary.

F. M. DOUGLASS, M.D., Secretary.

JOHNSON COUNTY MEDICAL SOCIETY

The Johnson County Medical Society met in regular session in Warrensburg, Tuesday, October 10, at 1:30 p. m. The meeting was made particularly interesting by the presence of several of the local dentists who responded to our invitation to be present and assist in the program and discussion of the papers.

L. A. Roberts, D.D.S., read a paper on "Oral Sepsis and Its Relation to Systemic Disease."

James P. McCann, M.D., presented a paper on the subject of "Tonsils and Adenoids."

Both papers were full of interest and the discussion which followed placed the meeting among the very best ever held in Johnson County. The idea of working in harmony with the dental profession seems to be a popular undertaking. The modern dentist is in every way a professional gentleman occupying a high place of usefulness in preventive medicine and as a therapist, and it would appear that harmony should prevail among men who through honest efforts are endeavoring to maintain and uplift the banner of progressive activity in relieving the ills of mankind.

The efforts of the National Red Cross Society were discussed and a committee composed of Drs. L. J. Schofield of Warrensburg, S. A. Murray and W. G.

Thompson of Holden was appointed for Johnson County to act in harmony with the national organization.

The county is endeavoring to do its share of work for good, not only to invite and cement more closely the ties of fraternity among its members, but to do the utmost to educate the public to its vast needs and opportunities.

The next meeting will occur on December 12, at which time there will be an afternoon session for business and scientific discussions, and a night session for the public. All physicians and members of the laity are cordially invited to these meetings.

O. B. HALL, M.D., Secretary.

LEWIS COUNTY MEDICAL SOCIETY

The Lewis County Medical Society met at Monticello, October 12, with the following members present: George P. Knight, Ray Mercer, A. C. Crank, Joseph R. Hamlin, Paul F. Cole, C. N. Frame, William L. Ellery and Roy O. Wilson. The meeting was called to order by Dr. George P. Knight, president.

A motion was made that all members of the Society make no examination for old line insurance for less than \$5. Seconded and carried.

A motion was made that all members refuse to make examinations for the Missouri State Life Insurance Company as long as they have osteopaths for examiners. Seconded and carried.

The application for membership of Dr. Samuel Winn Holt of Steffenville was read and the board of censors reported favorably; Dr. Holt was elected to membership.

The application of Dr. George L. McCutchan was read and referred to the board of censors.

Society adjourned to meet at Quincy, Ill., Nov. 15, 1916.

RAY MERCER, M.D., Secretary.

MARION COUNTY MEDICAL SOCIETY

The Marion County Medical Society met in regular session the evening of October 6, the president, Dr. A. J. Detweiler, presiding.

The program consisted chiefly of presentation of interesting cases, followed by a general and profitable discussion.

The president appointed the following members on the Red Cross Committee: Drs. J. J. Bourn, Thomas C. Chowning and Isaac E. Hill, all of Hannibal.

MARY S. ROSS, M.D., Secretary.

SCHUYLER COUNTY MEDICAL SOCIETY

The Schuyler County Medical Society met in regular session at Lancaster, September 26, with the following members present: Drs. W. F. Justice, B. B. Potter, W. A. Potter, J. H. Keller of Lancaster; H. E. Gerwig and J. B. Bridges of Downing. The meeting was called to order by Dr. H. E. Gerwig, president. The minutes of the last meeting were read and approved.

There were no papers read but a number of interesting cases were reported and discussed.

A communication from the committee on Red Cross Service was read and discussed, and the following committee was appointed by the president to serve and be known as the Local Red Cross Committee of Schuyler County: Drs. W. A. Potter, J. H. Keller of Lancaster; W. H. Zieber of Queen City; H. E. Gerwig and J. B. Bridges of Downing.

It was decided to hold the next meeting of the Fifth District Medical Society in connection with the Schuyler County Medical Society at Lancaster on December 21, at which time and place there will be given a banquet for the members of the Fifth District Medical Society together with their wives. All members are not only cordially invited but earnestly solicited and urged to attend, as we anticipate a grand and pleasant as well as a profitable meeting.

J. B. BRIDGES, M.D., Secretary.

ST. LOUIS COUNTY MEDICAL SOCIETY

St. Louis County Medical Society met in regular monthly session Oct. 12, 1916, 2:30 p. m., at Webster Groves.

Dr. Rollin H. Barnes of St. Louis read a very able paper on treatment of fistula with severing the sphincter muscle.

A pulmotor was presented to the Society by The Electric Company of Missouri.

Cases were presented by Drs. Cape, Wyer and Armstrong and topics of general interest were discussed.

Those in attendance were: P. M. Brossard, president; R. B. Denny, C. L. Armstrong, J. H. Armstrong, A. W. Westrup, H. G. Wyer, L. W. Cape, A. Conway, Marshall Baker, W. H. Townsend, S. H. Reynolds, A. F. Meisch, Otto Koch and G. Jones.

Meeting adjourned until November 9.

GARNETT JONES, M.D., Secretary.

WEBSTER COUNTY MEDICAL SOCIETY

The Webster County Medical Society held its quarterly meeting at the home of Dr. E. M. Bailey, Elkland, Sept. 19, 1916. The meeting was called to order at 11 a. m. and Dr. J. W. Good was elected president pro tem. Drs. J. W. Good, W. J. Rabenau, D. A. Williams, M. G. Roberts, M. Highfill, E. M. Bailey and J. R. Bruce answered the roll call. Drs. E. H. Roberts, W. F. Schlicht and Rev. Mr. Bath were visitors at this meeting. The minutes of the last meeting were read and approved. The report of the treasurer was read and adopted.

The business of meeting was then taken up and Dr. Highfill reported a case of diabetes and treatment with the starch method which was very successful, the patient in three days being improved until he was able to be up. Dr. Highfill also reported a case of fracture of the femur in which the fractured bone protruded into the abdominal cavity. The patient lived about ten days. Considerable time was taken up in the discussion of poliomyelitis, its mode of contagion and infection.

At noon the meeting adjourned for dinner which was a sumptuous repast beautifully served by Mrs. Bailey at Dr. Bailey's home.

The afternoon session opened at 1:30. Drs. Bruce, Adkins, Bailey, Rabenau and Schlitch were appointed by the chairman on the local Red Cross Committee.

On motion resolutions of sympathy were sent to our president, Dr. Atkins of Rogersville, who has recently been confined to his home by sickness.

Our next meeting will be held at Marshfield Dec. 6, 1916.

On motion a vote of thanks was extended to our host and hostess, Dr. and Mrs. Bailey, for the entertainment and dinner.

The application of Dr. E. H. Roberts to become a member of our society was read and referred to the Board of Censors.

JOHN R. BRUCE, M.D., Secretary.

THE TRUTH ABOUT MEDICINES

NEW AND NONOFFICIAL REMEDIES

Since publication of New and Nonofficial Remedies, 1916, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Non-official Remedies":

BIARIUM SULPHATE FOR ROENTGEN RAY WORK.—Barium sulphate freed from soluble barium salts. This salt passes through the system unchanged and, because of this, is used in taking Roentgen ray pictures of the stomach and the intestines.

BIARIUM SULPHATE-SQUIBB, FOR ROENTGEN RAY WORK.—A brand complying with the standards for barium sulphate for Roentgen ray work, N. N. R., E. R. Squibb and Sons, New York (*Jour. A. M. A.*, Oct. 7, 1916, p. 1091).

CHLORAZENE TABLETS, 4.6 Gr.—Each tablet contains 4.6 grains chlorazene (sodium paratoluenesulphochloramine). The Abbott Laboratories, Chicago (*Jour. A. M. A.*, Oct. 21, 1916, p. 1229).

PROPAGANDA FOR REFORM

HYDRAS.—The Council on Pharmacy and Chemistry reports that Hydras, sold by John Wyeth and Bro., is one of the so-called "uterine tonics," said to contain "cramp bark, helonias root, hydrastis, scutellaria, dogwood and aromatics" in unspecified amounts. While the name, taken in connection with the composition, suggests that hydrastis is an important constituent, the A. M. A. Chemical Laboratory found this drug to be present in unimportant amounts. The Council finds Hydras inadmissible to New and Non-official Remedies because its composition is semi-secret; because the recommendations on the label for its use in specified diseases and the advertising accompanying the bottle are sure to lead to its ill-advised use by the public; because the claims made for its curative properties are exaggerated and unwarranted; because the name is misleading and because the combination of these five drugs, even if individually they were of therapeutic value, is irrational (*Jour. A. M. A.*, Oct. 7, 1916, p. 1107).

NUXATED IRON.—Nuxated Iron is advertised in newspapers with the claim that it is not a patent medicine or secret remedy. In the popular meaning of the words, "Nuxated Iron" is just as much a "patent medicine" as is "Perina," "Lydia Pinkham's" or "Pierce's Favorite Prescription." Also, "Nuxated Iron" is essentially secret in composition. While the public is led to believe that the preparation consists chiefly of nux vomica and iron, analyses made in the A. M. A. Chemical Laboratory and elsewhere indicate that it contains much less than an ordinary dose of iron and practically no nux vomica. It is sold under claims that are both directly and inferentially false and misleading not only as regards its composition but also as regards its alleged therapeutic effects. Nuxated Iron is also advertised in the *Medical Brief*, a publication which has for its editor the "medical expert" for the Wine of Cardui concern in the recent case against the American Medical Association and as its publisher one who, through the *National Druggist*, has long been the mouthpiece of the "patent medicine" interests (*Jour. A. M. A.*, Oct. 21, 1916, p. 1244).

PATENT MEDICINES PROSECUTED UNDER THE FOOD AND DRUGS ACT.—The following information was brought out in connection with prosecutions by the federal authorities under that portion of the Food and Drugs Act which provides penalties against mis-

leading, false and unwarranted therapeutic claims: Rayway's Ready Relief was claimed to relieve rheumatism, sore throat, pleurisy, pneumonia and other conditions. The government chemists found the preparation to be a hydro-alcoholic solution of oleoresin of capsicum, camphor and ammonia. Ingham's Vegetable Expectorant Nervine Pain Extractor was found to contain alcohol 86 per cent., opium alkaloids, camphor, capsicum and vegetable extractive matter. It was claimed that this morphine mixture was not only safe and harmless, but positively beneficial when given to teething children. Tetterine was said to be a marvelous remedy for tetter, eczema, etc. Maignen Antiseptic Powder according to the government chemists is composed essentially of calcium carbonate, borax, aluminum sulphate and sodium carbonate. Among other things the exploiters of this powder, which at one time was advertised to the medical profession, tried to persuade the public that the preparation would "sterilize" the stomach, throat, nose, lungs, etc. Green Mountain Oil or Magic Pain Destroyer was found to consist essentially of 95 per cent. linseed oil, with oil of sassafras, oil of thuja, and oil of turpentine, with possibly small amounts of camphor. According to the claims made on the trade package, this stuff was said to be "A Remedy for Diphtheria, Croup, Deafness and Sore Eyes, Rheumatic Pains, Stiff Joints, Pains in the Back" and many other ailments. Mrs. Joe Person's Remedy was found to be a slightly sweetened water-alcohol solution of vegetable drugs with a minute trace of alkaloids and the presence of podophyllin and sarsaparilla indicated. The preparation was claimed to cure such things as "blood poison," eczema, malaria and pellagra. Tutt's Pills were found to consist mainly of sugar, aloes, starch and calomel. The nostrum was sold under claims to the effect that it was "a remedy for intermittent and remittent fevers, dropsy, dysentery, diseases of the kidneys and bladder," and a number of other conditions (*Jour. A. M. A.*, Oct. 28, 1916, pp. 1316-1317).

BOOK REVIEWS

ANNALS OF SURGERY, October, 1916. (J. B. Lippincott Company, Philadelphia.)

A paper by Dr. Albert J. Ochsler of Chicago on exophthalmic goiter is the leading article in this issue. There are nine other interesting articles discussing various surgical conditions, and the transactions of the Philadelphia Academy of Surgery and the New York Surgical Society. The number is illustrated.

SURGERY, GYNECOLOGY AND OBSTETRICS, October, 1916.

This is the Clinical Congress Number. It contains the plans for the Philadelphia Session, October 23-28. The preliminary program of clinics is very extensive. The evening sessions of the congress will be held in the ball room of the Bellevue-Stratford Hotel.

The original articles in this issue are numerous and varied. The leading article is by the late Frederick R. Charlton, M.D., Indianapolis, on Cystitis Senilis Feminarum. It is illustrated with four drawings in colors.

THE ROCKEFELLER FOUNDATION INTERNATIONAL HEALTH COMMISSION, SECOND ANNUAL REPORT, JAN. 1, 1915, TO DEC. 31, 1915.

This volume of 185 pages gives quite a comprehensive summary of the activities of the International Health Commission and presents some very enlightening facts concerning the progress toward better conservation of health not only in this country but in other parts of the world. The measures against hookworm are described in considerable detail and illuminated with a number of splendid photographic illustrations.

THE MEDICAL CLINICS OF CHICAGO, September, 1916. (W. B. Saunders Company, Philadelphia.)

This issue contains a description of clinical cases observed in the clinics of the following: Dr. Charles Spencer Williamson, Cook County Hospital; Dr. Isaac A. Abt, Michael Reese Hospital; Dr. Ralph C. Hamill, Northwestern University Medical School; Dr. Frederick Tice, Cook County Hospital; Dr. Joseph Zeisler, Northwestern University Medical School; Dr. Solomon Strouse, Michael Reese Hospital; Dr. Joseph C. Friedman, Michael Reese Hospital; Dr. M. Milton Portis, Cook County Hospital; Dr. Charles Louis Mix, Mercy Hospital; Dr. Arthur F. Beifeld, Cook County Hospital.

X-RAYS. By Harold Mowat. Oxford University Press, American Branch, 35 West 32nd Street, New York.

This book of 200 pages gives a clear and concise description of the X-Ray and its many accessories. Because of the many subjects treated the descriptions are a little too short. The author states in his preface that his book is written for those who have little or no knowledge of the subject and he merely wished to give the elementary facts connected with this important subject; he apologizes for not mentioning books or articles referred to because he is in the Army service. No doubt the subject will be more fully treated when a more opportune time presents itself.
J. J. S.

RULES FOR RECOVERY FROM TUBERCULOSIS. A Layman's Handbook on Treatment. By Lawrason Brown, M.D., of Saranac Lake, N. Y. Second edition, revised and enlarged. 12mo, 184 pages. Cloth, \$1.25 net. Lea & Febiger, Publishers, Philadelphia and New York, 1916.

This little book represents not only a very useful but a necessary treatise for all patients who are afflicted with tuberculosis; a great deal of useful information can be gleaned also by the physician. A patient who reads and studies this book will gain much information that will be valuable to him and his physician in accomplishing the goal, that is, "Recovery from Pulmonary Tuberculosis." The newer ideas of the tuberculosis problem are presented so that they can be easily understood by the layman.
J. J. S.

INFANT FEEDING AND ALLIED TOPICS. By Harry Lowenburg, A.M., M.D., Assistant Professor of Pediatrics at the Medico-Chirurgical College of Philadelphia. 382 pages, illustrated with 64 text engravings and 30 original full-page plates, 11 of which are in colors. Price \$3.00. Philadelphia, F. A. Davis & Co., 1916.

This book contains many commendable features, but unfortunately there is also material which will undoubtedly be subjected to serious criticism. The trained pediatrician of mature judgment will find much of interest in it, the student much to lead him astray. For instance, not many pediatricians would sanction the advice to give a two-months-old baby 33 ounces of any milk mixture, or 40 ounces to one of four months and 50 ounces to one of nine months. And after all our infant welfare work it is discouraging to see condensed milk advised for the poorer classes during the summer months. It is questionable also whether the chapter on "Spondylotherapy" adds to the value of the book.

The brief history of infant feeding, the explanation of some of the more necessary biochemical methods, the handling of clean milk and the detection of preservatives in milk will undoubtedly find ready commendation.
T. C. H.

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E. J. GOODWIN, M.D.,
EDITOR

PUBLICATION COMMITTEE { W. H. BREUER, M.D., Chairman
S. P. CHILD, M.D.
M. A. BLISS, M.D.

ORIGINAL ARTICLES

OBSERVATIONS FROM TWO HUNDRED ROUTINE FRACTURE CASES*

CHARLES E. HYNDMAN, M.D.
ST. LOUIS

The large number of fractures possible, the wide range of distribution, the almost unlimited variety and the varying degrees of severity make their study a very interesting one.

To many physicians, the word fracture carries with it an uncontrollable feeling of dread, fear and distressing uncertainty. This uncertainty arises, I think, from the unfamiliarity with the true conditions existing and the simplicity of the means and methods necessary for their correction. Most of us are looking for something big and difficult, requiring complicated treatment, apparatus and operative procedure, and for this reason often over-treat our fractures and over-exert ourselves with unnecessary worry and anxiety as to the final result to be obtained.

I have taken as the basis of this paper a series of some 200 fractures which came under my care recently during six months of my service at the St. Louis City Hospital. Of course, from a small series of cases such as I have here it is impossible to draw any very important conclusions, but it gives an idea of the wide variety of fractures encountered and shows, to a certain extent, how good results may be obtained in most cases by simple methods of treatment.

In considering the subject of fractures as a whole we must consider the solution of continuity of any bone or cartilage, the liability of individual bones to fracture, the influence of race, age, sex, and season, as well as the classification according to their degree, direction, location, etiology, relation to the overlying

skin, the number of fragments and the complications accompanying them.

According to their degree we classify fractures as complete and incomplete. According to their etiology we have two groups, the traumatic fractures and the spontaneous fractures. Those due to traumatic causes are the result of external violence, direct or indirect, or from violent muscular action.

Pathological or spontaneous fractures are the result of a fragility of the bone arising from a local bone lesion, or from some general wasting disease. Among the local bone lesions we have tumors, benign and malignant, inflammatory processes and occasionally aneurysms. It is an interesting fact that over half of all pathological fractures occur in the femur, the humerus and the tibia being next in the frequency of their involvement. The most common cause of these fractures is bone tumors, either primary or metastatic. Of the primary lesions, sarcoma is by far the most common.

The metastatic carcinoma is next in order of frequency. It was the custom of Professor Ludwig Pick, with whom I had the good fortune to spend some time in the Friederickshain Hospital in Berlin, to classify carcinomata into two classes, namely, "the bone makers" and "the bone breakers"; carcinoma of the prostate and the thyroid being bone makers (that is, producing enormous enlargement and thickening of the bone), and carcinoma of the breast and suprarenals being violent bone breakers by their metastases. About 60 per cent. of all fractures from carcinoma metastases result from primary carcinoma of the breast and over half of them occur in the femur. In this little series I will show examples of these.

Fractures resulting from benign bone cysts are not so frequent and usually occur earlier in life. One such fracture of the humerus I have to show you. Spontaneous fractures from osteomyelitis or tuberculosis did not occur in this group, but I have seen very interesting cases of both. Fractures resulting from syphilis are not very common. I have here one

* Read at the Fifty-Ninth Annual Meeting of the Missouri State Medical Association, Excelsior Springs, May 8-10, 1916.

interesting case, however, resulting from syphilis of the femur.

Fractures resulting from increased fragility of the bone due to some general disease, such as tabes dorsalis, syringomyelia, senile changes, diabetes, scurvy, rachitis, and osteomalacia are not frequent, but they do occur and present a most perplexing problem.



Fig. 1.—Pseudarthrosis in man 37 years of age; three years after fracture.

These 200 cases which I present are not selected but are taken in routine order of their admission to my service at the St. Louis City Hospital during a period of six months.



Fig. 2.—Showing false joint and old silver wire in the bone.

The first fact that strikes us is that almost every variety of fracture possible appears in this series. With the exception of the sternum and the hand, practically every bone or group of bones from the top of the head to the tip of the toes is involved. We have complete and incomplete, simple and compound, with practically all the varieties of transverse, longitudinal, oblique, spiral, multiple, comminuted,

impacted, articular, and epiphyseal, besides three pathological fractures from three different causes.

In addition to these, but not included in this group, twelve dislocations came under my care during the same period.

The figures run as follows: Simple fractures, 161; compound, 39; fractures occurring in males, 169; females, 31; negroes, 27; whites, 173; on the right side, 94; left side, 87; patients under 20 years of age, 22; between 20 and 40, 60; 40 and 60, 89; 60 and 80, 28; over 80, 1. The youngest patient was 3 years old and the oldest 87 years of age.

Arranged in order of their frequency, we have: Tibia, 32 cases; fibula, 31; femur, 31; radius, 19; ribs, 13; humerus, 12; skull, 12; ulna, 9; patella, 7; jaw, 7; clavicle, 6; pelvis,



Fig. 3.—Showing bone transplant from tibia into the humerus.

4; metatarsal, 4; nose, 3; epiphyseal separation, 3; vertebrae, 2; phalanges, 2; scapula, 1; os calcis, 1; and astragalus, 1.

Of further special interest are spontaneous fractures, 3; basilar fractures, 6; depressed fractures, 6; and fractures from gunshot, 4. It is also interesting that of the classical fractures, only 8 Colles' and 5 Pott's fractures appear and 1 Greenstick fracture.

The first and most important point in the diagnosis of a broken bone is to consider every case of violent injury as a case of fracture until you can positively prove it not to be. This, I think, is the safest attitude and nothing should be taken for granted.

There is nearly always, except in cases of pathological fracture, a history of trauma, even though it may have appeared insignificant at the time. The manner in which this injury occurred suggests the kind of fracture to anticipate. With a history of trauma and with deformity of the part, abnormal motion, crep-

itus, and ecchymosis, no one could fail to make a diagnosis of broken bone. However, a fracture may exist with one or all of these signs lacking. In pathological fractures and in fractures in tabetic and rachitic patients, a history of injury is entirely absent, or of such slight degree as to be considered insignificant. Here not only is the history of trauma lacking, but also the sense of pain. In some of our cases we found a complete absence of deformity, swelling, ecchymosis, crepitus or abnormal motion of the part and yet a distinct fracture was shown by the Roentgen ray. These occurred mostly in parallel bones. While ecchymosis is not to be relied upon completely, still I think its presence is of importance in the diagnosis.



Fig. 4.—Showing the upper half of graft firm and the lower half necrotic.

Crepitus, if present, is usually positive indication of a broken bone, but not always. I have seen cases where joint crepitus, usually in arthritis or dislocation cases, was so marked as to lead us into error as to the presence of a fracture. An interesting case of this occurred in an elbow which I shall show you presently.

The absence of crepitus, on the other hand, may be due to a number of causes, as, for instance, cases of Greenstick fractures, spontaneous fracture through destructive bone lesions, epiphyseal separations, articular fractures, cases where there is considerable overriding of the fragments or wide separation of the ends of the bone or due to the interposition of soft tissues, impacted fractures or fractures which have existed several days so that the ends of the fragments have become softened or a large callus has formed.

Measurements of the affected limbs indicate the degree of shortening in certain cases, but

cannot be relied upon to detect the presence of a fracture.

There is one sign, however, which with the exception of pathological fractures and fractures in tabetic and rachitic individuals, is always constant. That is a distinct point of tenderness located directly over the break in



Fig. 5.—End result, a strong and useful arm.



Fig. 6.—Pathological fracture of femur due to metastasis from carcinoma of the breast.

the bone. Upon this I place more reliance than upon any one symptom in the diagnosis. A fracture may exist with any one or all of the other signs absent, but the presence of this point of "winching tenderness," as some choose to call it, is constant. By its character and location we can differentiate fractures from sprains or contusions. This point of ten-

derness must be elicited by the physician independent of, or in spite of, the patient's suggestion or assistance.

There are certain points of importance to be remembered in the use of the Roentgen ray. First, a skiagraph taken from only one angle, unless it shows a distinct break, is of absolutely no diagnostic value. In order to determine the



Fig. 7.—Original lesion (carcinoma of breast) of Figure 6.

presence of a break and the degree of malposition, a picture must be taken from at least two different angles. Failure to do this has often led to serious error. Second, skiagraphs always magnify the deformity to a certain extent. Third, certain fractures, such as those of the scapula, ribs and skull are often very difficult to show by the Roentgen ray. Fourth, a considerable time must elapse before new callus is of sufficient density to show distinctly on a skiagraph (an important point to remember in noting the progress of union). Fifth, it is not necessary to replace the bones mathematically exactly end to end, as shown by the Roentgen ray, in order to obtain a firm union. In fact, I believe that where the ends of the fragments are simply well caught into each other, more irritation exists, a much larger callus is formed and hence a much firmer union ultimately. From this, however, I would exclude such as Colles' fractures where the presence of a large callus is not desired. This leads me to state that the one union with malposition in this series was in a case of Colles' fracture. A man of about 60 years of age came in with a Colles' fracture of over two weeks' standing. The position was not very good, but union had taken place and the patient's general condition did not warrant the giving of a general anesthetic to break up the impaction. I think all impacted Colles' frac-

tures should be broken up and the fragments molded perfectly into position.

In the treatment of these cases, with a few exceptions, the simplest appliances of extension, splints or plaster of Paris were used with perfectly satisfactory results.

Only thirteen of the 200 cases were operated. Six of these were depressed fractures of the skull, one femur plated, one articular fracture of the tibia nailed, two patellas wired, one bone grafted for a nonunion of the humerus of three years' standing, one resection of the head of the femur following a nonunion of an old transverse fracture of the neck, and one fracture of dorsal vertebrae where pressure on the cord was apparent. Such fractures as those of the patella with wide separation were, of course, operated, but as a general rule we refrained from all operative procedure possible.

In a general way my routine handling of these cases is as follows: Upon entering the ward the patient is stripped and put to bed, splints or temporary appliances removed. Careful inspection, palpation and measurements of both sides are made. In compound fractures, use as little manipulation as possible; the wounds are cauterized with tincture of iodine, and in case of very severe contusion and laceration the wounds are enlarged and rubber drainage inserted. Fifteen hundred units of anti-tetanic serum is administered in each such case.



Fig. 8.—Pathologic fracture of the femur due to syphilis. The opaque spots are bismuth paste.

If the displacement of the fragments is very great, reduce and immobilize immediately. If the deformity is slight and the position of the fragments in fairly good line, apply a temporary fixation splint. This usually consists of pillow splints, fracture boxes, sand bags or in the case of an arm fracture, apply simple wooden splints.

A skiagraph is then taken, the deformity reduced and the part permanently immobilized.

In doubtful cases, a second skiagraph is made after the reduction.

In fractures of the extremities, I preferred, wherever possible, to use plaster of Paris casts, stirrups, gutters or molded splints.

Colles' fractures are either put up in a light plaster cast or on a light wooden posterior splint, extending from the elbow to the metacarpophalangeal joint.



Fig. 9.—Pathologic fracture of the humerus due to bone cyst.

Fractures of the femur were put up in Hodgen splints or in plaster casts after the method of Whitmann. Notwithstanding that fact that the Hodgen splint is difficult to apply and that it requires constant attention, I have found it perhaps the best all-round method of treating fractures of the neck and upper shaft of the femur. I had side by side two boys of about the same age with almost identical fractures of the middle of the shaft of the femur. Both were transverse and had about the same amount of over-riding. One case was fixed with a Lane bone plate, the other put in a Hodgen splint. Both had perfect results with no perceptible shortening. It was impossible to tell which had the better functional result. Besides having a firm union, with no perceptible shortening or deformity, the boy in the Hodgen's had a large firm callus about the ends of the fragments which will not have to be removed at some later date.

Depressed fractures of the skull were, of course, operated at once, but fractures of the base were not operated until focal symptoms appeared and not then, if the drainage from the ears was very free. To my mind, if there is a place for sane, conservative surgery, it is in the treatment of fractures of the base of the skull. In most cases, all that can be done is a simple decompression and in a large percentage of cases nature does this by the bleeding through the ear.

Fractures of the clavicle and ribs were strapped with adhesive plaster. In the case of the ribs, the plaster was extended completely around the chest to make the fixation more certain.

In one case of fractured vertebrae, a laminectomy was done to relieve the pressure from a callus which had formed and in the other, a plaster jacket was applied.

A number of interesting complications arose in the treatment of many of these cases. Severe skin disturbances were often met with. These were in the form of numerous serous and hemorrhagic blebs, usually occurring with fractures of the lower extremities. They were of no significance except to delay the application of a permanent cast.

Infections were present in about 50 per cent. of the compound fractures, two of these, resulting from gunshot wounds, necessitated amputation. Two cases of gas bacillus infection, in spite of the most radical procedures, unfortunately terminated fatally.

In one case of fracture of the leg, a severe hemorrhage occurred, but had no serious consequences. Two cases of gangrene, from thrombosis or injury to the blood vessels, resulted fatally although immediate amputation was done. One case of pulmonary embolism occurred ten days after the amputation of a



Fig. 10.—Same as Figure 9, showing bone cyst above fracture.

mangled arm. Pneumonia among the alcoholics and the very aged patients occurred frequently. Two interesting cases of extensive interstitial emphysema were encountered. Delirium tremens, except those followed by pneumonia, served to test the efficiency of the splints and the patience of the interns.

With the exception of a few fractures of the femur in patients too old and feeble to permit of fixation, we had no non-unions in fresh

cases. One case of pseudo-arthritis, however, is of sufficient interest to permit special mention. A white man, 37 years of age, had three years previously received a transverse fracture about the middle of the left humerus. A surgeon at that time approximated the fragments with a heavy silver wire. A false joint resulted but the man went about his work as laborer, the silver wire serving as a hinge to hold the ends of the bones together. All went well until one day the wire broke and his arm folded up. The patient came to us in that condition. We removed the wire and also the mushroomed ends of both fragments of the humerus. With the hope of preserving the length of the arm, a piece of bone about three inches long was taken from the tibia and inserted between the fragments. The upper end of the graft united firmly but the lower inch and a half necrosed and had to be removed. A Lane plate was then inserted fixing the lower fragment of the humerus to the remaining healthy part of the graft. Union was firm and after eight weeks the plate was removed. The patient now has a strong, useful arm with about an inch shortening, which is much more than we could have hoped to accomplish without the use of the bone transplant. I have pictures of this case, showing some of the different stages in the treatment.

Humboldt Building.

DISCUSSION

DR. J. J. LINK, St. Louis: I understood Dr. Robinson to say that bone grafting is absolutely necessary for the reconstruction of bone tissue. If that was the statement, I want to mention, *per contra*, three cases.

The first is one in which there was an osteomyelitis of a mixed infection which started with tubercles in the humerus. The patient was a young man, about 19 years of age, in whom I resected the upper third of the humerus and curetted out all the bone marrow of the remainder. I tried to preserve the periosteum and most of it I think was left intact. Bone regeneration took place to the extent that he now has an arm which is quite useful. He is a mechanic (a machinist) and does his work today just as he did before the disease took place.

In another case of osteomyelitis, a boy about 16 years of age, I took out about one-fifth of the upper end of the tibia and all the bone marrow was curetted out. Regeneration took place with fairly good use of the limb. In another case, with the condition occurring in the lower end of the tibia, the bone tissue was all taken out, with fairly good result.

Nothing was said as to osteomyeloma. In one case of a young man, a boy of about 19, in whom I took out a myeloma at about the junction of the lower with the middle third of the ulna, all I did to take it out was making an incision and shell out the growth, scrape out the cavity, and put in 95 per cent. carbolic acid; perfect regeneration took place. In another case, a myeloma was taken out at the upper end of the tibia. These growths are rather rare, but when they do exist and are taken out in time, a further invasion of the bone will not take place. In both of these cases perfect regenera-

tion followed. I doubt whether it is ever necessary to do any bone grafting in bone cysts or in myelomata when taken out at an early stage.

One of the gentlemen emphasized the point that bone grafting is a simple operation. I think he emphasized it just a little bit too much. Bone grafting is a simple operation when done by a skilled operator, under favorable circumstances, under absolute asepsis and with proper assistance; otherwise it is by no means a simple procedure.

DR. GORDON A. BEEDLE, Kansas City: The present conception of the respective osteogenetic properties of the periosteum and the bone, we know, if we have reviewed the literature of the past five years, is simply a matter of chaos. Each side has been backed up by an abundance of literature behind which there is extensive experimental work to prove each position. So that, at the present writing, while it is only an academic question, we are still in the same position that we have been for years in regard to the respective virtues of the two constituents of the bone from the osteogenetic standpoint. This seems strange; there must be some reason for it when such extensive researches have been carried on by men of skill and equipment, and such various results have been obtained from their experimentation. The only solution I can discover of the situation is that there must be an error as to just what the transplant consists of whether they are using bone with or without periosteum, or whether they think they are getting all the periosteum from the transplant when they are just getting a portion of the periosteum. While it is true it is purely an academic question, it is certain that the way to get around it is to use bone with periosteum; then you certainly have all the osteogenetic properties of the bone in your transplant.

Operative work on bone fractures has been one of evolution. The first object has been to get away from the metallic or foreign substance; the second, to simplify the surgical procedure; third, to limit surgical procedure to the area of operation, to the operative field, if possible; and, last of all, of course, to get ideal results. We all appreciate today that splinting of bone, no matter what you do, will give ideal results in some cases; whether the Lane splint, or the inlay splint, or the medullary splint. But we must give credit to Albee for bringing forth an extensive work with the inlay, taking the graft from the proximal fragment and bringing it down in slat form, thus bridging in the space or making it continuous and maintaining his work in one area. The idea we are all familiar with and personally I have practiced it for two years. The principle is superior to the medullary transplant in this way, that you confine your field of operation to one bone and you take your transplant directly from the proximal fragment, instead of taking it from another tibia. You are keeping the bone fragment in the bed where it belongs, and where it is accustomed to live; it is associated in its proper place anatomically, it is inlaid in its proper place anatomically. Taking those advantages into consideration, with added ease in technic, the advantages become self-evident.

DR. C. M. NICHOLSON, St. Louis: Dr. Hyndman presented a series of 200 cases, about 6 per cent. of which he said were submitted to operation, and the others to the simplest form of treatment—that is, the splint. He shows the results following operation, which were excellent, but showed nothing about the results following simple treatment. Now I hope the doctor, if he has any radiographs of those cases, will, in closing, let us see just what is shown in the 188 cases just prior to the time they were discharged from the hospital. That is, of course, the only way by which we can draw a conclusion as to the value of the one method in comparison with the other.

In regard to the question of putting a bone plate on the clavicle; that is not a bad procedure; I have done it in a woman of 56, more than five years since. It was a case where the clavicle could be held in position in no other way and union was perfect; although you can feel the Lane plate just beneath the skin, she has no inconvenience from it.

The value of the Lane plate cannot be questioned in selected cases, though I do not think we should advise a Lane plate where the bone can be held in position by other more simple methods.

In regard to the second paper, while there is some question as to whether the growth takes place from the osteoblasts or from the osteogenetic layer of the periosteum, it makes absolutely no difference so far as the results are concerned. One thing we know, and that is that if there is now an established fact in surgery it is that those cases of ununited fracture, if treated by a bone graft, either medullary or cortical will unite, and, providing the work is done with a proper technic, the favorable results closely approximate 100 per cent.

DR. CHARLES E. HYNDMAN, St. Louis, closing: I did not get an opportunity to finish the paper and have just a few points I would like to mention.

As to the results obtained in these fractures, we did not have one case of nonunion among those cases that came to us with fresh fractures. We had one case of union with malposition; this was a case of Colles' fracture, which had occurred two weeks before and had unfortunately united with a slight deformity, but the man's condition would not permit us to give an anesthetic and break up the impaction. So I think with that sort of result, the simple, nonoperative treatment can be well spoken of.

As to the point of diagnosis of fracture, there are a few things, aside from the cardinal symptoms, that I believe should be borne in mind. Every case of severe injury should be considered a fracture until it is proved otherwise, taking into consideration the symptoms of pain, crepitus, loss of function, etc., which are more or less invariable. There is one indication which is invariable, and that is the point of tenderness located directly over the break. This point of wincing tenderness is always constant and can be elicited, and should be elicited, by the doctor himself without the assistance of the patient.

In the use of the Roentgen ray, which is our most valuable aid, there are several points to bear in mind in regard to diagnosis of fracture. In the first place, skiagrams always magnify the deformity, for, you know, a skiagram is not an image, it is a shadow, so the deformity is always magnified. A certain amount of time must elapse between the time of fracture and the time of taking the skiagraph for the new callus to be of sufficient density to show on the Roentgen-ray plate, and that is a very important point to remember in noting the progress of your union. Many a fracture has been turned loose too soon, or is operated on because it does not show a callus when the callus cannot show a shadow.

Another very important point is that it is not necessary to approximate the ends of the bone absolutely, mathematically correct, as shown by the Roentgen ray in order to get a good functional union.

One other point that I want to take up is that of the bone graft. To my mind, there are a few things which are absolutely essential to success in bone grafting. The first thing is absolute cleanliness; the second is that of a suitable instrument to make the bone graft with; the third is to take a whole bone, get the endosteum and the periosteum and use them both, and the fourth is absolute fixation. A bone graft will not take, no matter how well it is implanted, unless the part is absolutely immobilized.

THE TRANSPLANTATION OF BONE*

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The recent development of modern surgical technic has at last placed the subject of bone transplantation on so firm and scientific a basis that it has finally made it a satisfactory and safe procedure. In fact, it has been found to be the only one that will cause union in many cases of obstinately ununited fracture, and is often the only hope in bridging large bony defects or preventing mutilating deformity.

The advantage and possibilities of this method of treatment are at once apparent. With proper asepsis, union is certain in even the most persistent ununited fractures. No unabsorbable foreign body is left in the wound, necessitating early or later removal. There is little if any delay in the establishment of bony union. Large deforming and often painful exuberant callus are avoided and function is much earlier established.

By bone transplantation bony defects may be filled and many possible amputations prevented. By this procedure the surgical field is materially widened, for patients will submit to a resection or excision of bone (as in tumor of bone or giant-celled sarcoma), when an amputation would be refused. The bone graft may be extended even into the joint cavity with assurance of success.

Within the past few years our ideas as to the repair of bone and viability of transplanted bone have materially changed. Macewen has shown that small fragments of bone or "bone chip" may be detached and made to regenerate new bone when placed in contact or alone in living body tissue, and this without periosteum. Murphy has proceeded one step further and has transplanted large pieces of bone with or without periosteum with like success. There are, however, many points in the regeneration of bone and the viability and ultimate disposal of the bone graft that are still unsettled.

One of the most interesting of these is the part played by the periosteum. All the older writers on bone pathology (which, by the way, goes back to the latter part of the eighteenth and the early part of the nineteenth centuries), laid special stress on the part played by the periosteum in bone regeneration. The writings of Dupuytren were generally accepted as conclusive, and for more than a century medical writers accepted his conclusions that bone was developed from practically the periosteum alone. Almost thirty years ago, however, Macewen began to doubt the correctness of this view. But it is only within the last few

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years, since his recent classic was published ("The Growth of Bone"), and the original work of Murphy, Ollier, Barth, Axhausen and others, that we have arrived at the proper conception of bone growth.

Weider, in 1906, at the University of Pennsylvania, demonstrated by animal experimentation that the periosteum alone, either elevated or detached, could not produce bone. He did not, as judged by his published conclusions, apparently appreciate the full significance of his experiments. His work only confirmed that of Macewen, that some portion of bone, possibly often microscopic, must remain attached if the periosteum is to regenerate true bone. The conclusions of Macewen, however, are most convincing. He says:

"It may be deduced from the foregoing observations and experiments that diaphyseal bone is reproduced from the proliferation of osteoblasts derived from preexisting osseous tissue, and that its regeneration takes place independently of the periosteum. The periosteum is not essential to bone production. Osseous tissue can pass through all the phases of its life, from its embryonic to its mature form, without the influence of or contact with this tissue. The periosteum is of great use in limiting within specific boundaries the distribution of the osteoblasts and preventing them during their evolutionary period from being scattered into the soft tissues where they are prejudicial to the function of these parts. In the loose areolar tissue existing between the periosteum and the bone, the osteoblasts find nutriment for their growth and space to generate, free from undue pressure. While not underestimating the periosteum as a limiting and protective membrane of great use in physiological and pathological conditions, there are no data to indicate that it can of itself secrete or reproduce bone. It has no osteogenic function."

Murphy, in his last monograph on the subject, says: "Periosteum attached to the transplanted portion, if the graft is taken from young individuals, has a plus osteogenic influence; on the middle aged it is neutral; in those of advanced years it plays a minus role, and, in fact, it is detrimental."

Axhausen thinks "that there is greater probability of graft living if periosteum is left on."

McWilliams and Albee believe "the periosteum helps the blood supply."

W. L. and C. P. Brown of El Paso, Tex., believe "that the periosteum is evidently a protection to the process of regeneration and union between the graft and parent bone, preventing the ingrowth of fibrous tissue exactly as a nerve sheath is a protection to the nerve."

All who have had a wide experience agree that the periosteum aids in causing the graft to live.

In many cases failure of broken bones to unite is due to the fact that the bone-forming process reaches a certain degree of development and then stops. It is arrested before the gap between the bone is bridged over. The bone transplant acts as a superstructure or framework over which the osteoblasts are carried.

In the opinion of many surgical pathologists, when this structure has served its purpose it is then torn down, i. e., absorbed, as its place is taken by new formed bone. "The graft," says Murphy, "is per se not osteogenic but osteoconductive. The regenerative force and cells are entirely supplied from the living bone. The graft, however, is an absolute necessity in the regeneration." Others, notably McWilliams and Albee, do not believe that the graft is absorbed but that it becomes an intimate part of the osseous framework. Such bone grafts, when properly placed, reach beyond the immediate area of transplantation and carry new bone forming elements from uninjured bone itself. This is unquestionably one of the important reasons that union can be established even in those cases where there is absolutely perfect approximation of the fragments, and yet where no union had occurred.

How long the transplant remains in the tissue before its complete absorption or regeneration is, as yet, undetermined. If firm, bony union, however early, results, even with the persistence of the graft, the ultimate disposal of the transplant becomes one only of academic interest. In one case in which he had occasion to inspect the bone, about seven months after it had been embedded in the humerus, Murphy found the graft firmly united to the shaft. It had become viable new bone to all intents and purposes and when cut by the chisel bled freely, showing complete reestablishment of the Haversian system of blood vessels in the transplanted bone itself.

The great secret of success in all bone surgery is asepsis. Without it failure is certain. As one's experience widens and his familiarity with technic is perfected he sees how it is possible to operate these cases without even the gloved hand being placed in the wound. In my cases of bone transplantation I have been able to carry out this technic absolutely. I am confident it has materially aided in lessening the operative risk. Several of the cases herein reported have been fractures of the upper third of the tibia. Just why a break in this position fails so often to unite I cannot state, unless it is that the nutrient artery of the tibia is near and a thrombus of this vessel is the explanation.

Any portion of bone of whatever thickness may be transplanted. Macewen grafts small chips or pieces of bone, laying them in end to end approximation when a large defect is to be filled.

McWilliams has succeeded in transplanting a portion of the whole thickness of a rib devoid of periosteum. He, however, bored several holes in it in order to facilitate free access of the blood supply. Carter has transplanted a piece of the rib into the nose. He has split the rib, however, longitudinally and removed the medullary tissue. He states that if this remains it causes irritation and aseptic fever develops with greater danger of the graft failing to unite.

The accessibility and formation of the crest of the tibia makes it peculiarly adaptable to the fashioning of a transplant. This is the location from which most bone grafts should be procured. By the use of proper instruments a piece of the crest of the tibia of the desired length can be readily cut. This is triangular in shape and for the larger bones should measure about $\frac{1}{2}$ by $\frac{3}{8}$ by $\frac{1}{2}$ inches on its three sides. No effort is made to denude it of periosteum. It is detached with chisel after either end has been cut through with a saw to the desired depth. The newly formed granulations and medullary cavity of the fractured bones are bored out with the bone reamers. The transplant is at once, with as little handling as possible, driven into the lower fragment far enough to allow it to be inserted into the prepared cavity in the upper fragment. The bones are then firmly brought together and the transplant held in place by a single nail or phosphor-bronze wire or kangaroo tendon. This is not usually necessary if the graft fits snugly the reamed-out medullary space.

Accuracy in the mechanical adjustment of the bony structure hastens union, which occurs usually in from five to seven weeks, when the "dowel peg" or intermedullary splint has been used. A much longer period is necessary in the "bone inlay" cases, often two to three months of external fixation being necessary. The wound is closed without drainage and a well fitting plaster cast applied.

My own experience in supply bone defects consist in resections of the ulna, radius and inferior maxilla, and, in now quite a wide experience, in the transplantation of bone in the treatment of ununited fracture. In most of these I have used the so-called medullary splint or "dowel peg," usually taken from the tibial crest. The periosteum has been left intact adherent to the transplant. Albee's "bone inlay" for certain cases I found admirable and especially adaptable in the immobilization of the spine in Pott's disease of the vertebra.

Reconstruction, rather than excise surgery, is the highest aim of surgical art. Transplantation of bone is one of the great steps in this modern surgical progress and we can see in it infinite possibilities for good.

Bryant Building.

SOME OF THE FACTORS TENDING TOWARD ACCURACY IN CLINICAL DIAGNOSIS*

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ST. LOUIS

Accuracy in clinical diagnosis means the positive recognition and differentiation of morbid processes in the living. Because it is the foundation of treatment and prognosis, accurate diagnosis should be the goal of every physician in his study of the individual. It is often an easy task to say the individual is sick; but it is seldom easy to say precisely what ails him. To determine precisely what ails the sick man is to make an accurate diagnosis. This is possible in some and doubtful in some; but in most cases our diagnoses are partial, probable or highly probable.

An accurate diagnosis is more nearly possible today than ever before, because medical knowledge has become more exact as to the etiology and the natural history of most diseases and because we have acquired a number of methods and tests which we now utilize as indicators of health and disease. Notwithstanding this general advance in our knowledge, accurate diagnosis seems to be less common than in days gone by, because, it may be, that in our eagerness to apply the indicators we forget to study the whole individual. By such study I mean the securing and utilizing of all available information as data for diagnosis. In our zeal to apply modern methods and tests, which are indeed but a part of the physical examination, we are apt to fail to go further and adequately consider the other essentials underlying accuracy in diagnosis.

We have only to remember how the early clinical recognition of pulmonary tuberculosis was impeded for a number of years following the discovery of the tubercle bacillus and how completely we are now dominated by the presence or the absence of a Wassermann reaction when we think of the possibility of a syphilitic infection; or with what confidence we resort to the Roentgen ray for diagnosis even in common gastro-intestinal conditions. All such methods, to which the phrase "indicators of health and disease" might well be applied, are invaluable aids; but they should be utilized as aids and not as "short cuts" to diagnosis. There is both time and place for the application of laboratory methods in diagnosis and they should be used for the purpose of securing further and supplemental evidence but never to supplant clinical observations and deductions.

The way to accurate diagnosis is beset with many difficulties, the chief of which is lack of thoroughness on the part of the physician.

* Read at the Fifty-Ninth Annual Meeting of the Missouri State Medical Association, Excelsior Springs, May 8-10, 1916.

Medical education is partly to blame for lack of thoroughness. How can the physician be thorough in his work if his Alma Mater has failed to give him proper opportunity for proper equipment? Notwithstanding the wide variation in training among physicians, if the physician, whatever his medical education may have been, would give to each individual the best that is in him, accurate diagnoses would be far more common than they are today.

To get anything worth while we must have desire backed up by effort. It is so common that it almost seems natural for human beings to go in the direction of the least resistance and it is probably this tendency in many of us that causes us to fail to give the best that is in us to the sick. If we would recognize morbid processes in the living, we must overcome this tendency to travel in the direction of the least resistance and we must, moreover, supplant indifference with desire and with effort.

Both accurate and complete data are the foundations of accurate diagnoses. To get complete data takes time and patience; and if they are to be accurate, self criticism and the critical sense must dominate us and others at every step. The sources of the desired data in every case are in the statements of the individual, his relatives or friends, and in our physical examination.

It is not my intention at this time to dwell on the necessity for thoroughness in the physical examination in its broadest sense, including as it should the application of instruments of precision and the use of all available laboratory methods. The doing of these things collectively represents but one of the factors tending toward accurate diagnosis. But in passing I cannot refrain from calling your attention to the necessity of enlarging the scope of the physical examination, particularly in two diseases, tuberculosis and syphilis, to the end that every member of the family be studied where one of its members presents evidence of either of these diseases. The history of "chronic bronchitis" in the parent may prove on investigation to be tuberculosis, the source of infection in the dyspeptic and neurotic daughter; and the history of rheumatism in the father may prove to be tabes, thus accounting in part for the frequently ailing progeny or the chronic invalidism in the mother.

Thus enlarging the scope of our physical examination in many instances may not only render our diagnosis more certain in the individual but it may also enable us to more fully practice preventive medicine, the chief ideal of our profession. But diagnosis has to deal essentially with the individual, the study of him—of all that he is. The individual is a product of two great factors, his antecedents, which we call heredity, and his reactions to his environ-

ment. These are the factors tending toward accurate diagnosis to which I desire particularly yet briefly to direct your attention at this time.

I. THE FACTOR OF HEREDITY

One of the headings to be found in a well balanced clinical study is that of family history. An account of the disease incidence in the parents, in their brothers and sisters, and in the brothers and sisters of the individual, is there recorded with more or less completeness. We thus recognize the importance for diagnosis of the data afforded by the factor of heredity; yet the details are often meager, probably for the reason that many of us fail to realize the wealth of information to be derived by a careful elicitation of the family history.

It is common to note in case descriptions in medical meetings and in current literature the phrase "Family history negative, negligible or unimportant," when, as a matter of fact, the negative, negligible or unimportant family history does not exist. It is always important because, first, it discloses either health or disease tendencies; second, the manner in which it is given affords information concerning the education, intelligence and mental state of the individual; third, it may yield information having a definite bearing on the present illness; fourth, it may disclose hereditary disease (cancer, optic atrophy, deafness, certain forms of ataxia, tremors, muscular atrophies, hemophilia, etc.), or a congenital disease (syphilis), or the possibility of the effects of a germ plasm poison (syphilis, alcohol or metallic poisons).

With all these possibilities in mind, surely no one could find a case wherein a study of the family history might be called "negligible and unimportant." All the reasons just given for a careful consideration of the family history are obvious and require at this time no further comment. In order, however, that all available information may be secured it is necessary that some regular outline be followed, noting particularly, if living, the disease incidence and age, and if dead, age, cause and year of death, in the parents, uncles, aunts, brothers and sisters in chronological order. It is important to note the time of death of near relations, because it will be frequently found that such occurrences so lower the resistance of the individual as to precipitate or complicate his present trouble.

Family pride and ignorance often prevent the individual giving accurate information concerning the disease incidence and cause of death in near relatives. The "pneumonia" or "bronchitis" which will be admitted must often be interpreted as pulmonary tuberculosis; sudden death, a suicide; nervous prostration, a definite mental disease; nervous spells, epilepsy; chronic rheumatism, tabetic pains, etc. It requires the use of much tact and critical sense

to secure an accurate family history, but it is of such importance in diagnosis that the physician who takes the time will be amply rewarded for his effort. Remembering that the information secured about the family is at best hearsay testimony, often made doubtful either by pride or ignorance, the physician's critical sense should cause him when in doubt to verify the statements concerning the "good health" of relations by questioning the neighbors and when possible by personal inspection.

Such intensive studies of family histories as are here implied, if only of a few individuals, will reveal to the physician the dominating factor of heredity as a factor in both health and disease and moreover a pathology which eludes all other methods of research—a pathology which is of the "warp and woof" of the individuals themselves.

II. THE FACTOR OF THE INDIVIDUAL'S REACTIONS TO HIS ENVIRONMENT

The character of the individual's reactions to his environment, even his length of life, is in some way dependent on the quality of the germ plasm from which he developed. This is a biologic fact of great importance and it finds constant application in clinical medicine. The quality of the germ plasms is indicated by his family history, and it is further indicated by his personal history. Modern studies of families show beyond question that the germ plasm from which the individual develops contains the potentialities (determiners) which make for health or disease in him, as well as for his success or failure in life. If this be true, all things being equal, it must follow that to be healthy, to be useful and to live long, is not so much dependent on our environment as it is on our inherent ability to react in a favorable manner to it.

In saying this, however, it is not implied that to be "well born" means everything and that environment means nothing in the life of an individual. Some of us less fortunate in the choice (?) of our progenitors, though handicapped, may still lead relatively healthful and useful lives by careful and intelligent adjustments of ourselves to our environment. But one is less able than another to make adjustments or to react in a favorable manner to environment; one is more vulnerable, more susceptible to disease than another, and these are fundamental differences between any two individuals of the species. As physicians we must recognize differences in individuals, in their health and disease tendencies. Hence, knowledge of the environment and the manner in which the individual has reacted to it is an important factor tending toward accurate diagnosis.

This factor is to be found in the personal, commonly called past, history of the individual, and it should embrace all available information concerning: (a) The health of parents at the time of conception and the health of the mother during gestation. (b) The manner of birth—normal, prolonged or instrumental. (c) Nutritional conditions during early years of life and since then. (d) The menstrual history in females and of the periods in pubescence and climacteric in males as well as females. (e) The disease incidence in chronological order, specifying the diseases, their duration and sequelae, remembering that it is a waste of energy to write such a phrase as "the usual diseases of childhood." (f) The incidence of accidents and injuries in chronological order; (g) sexual and venereal history—the time of awakening of the sexual instincts, their gratification or suppression and sexual habits, especially in males; the date and duration of each attack of gonorrhea and its complications—"In what year did you have a sore?" or "When did you have a sore?" are questions not so likely to be evaded as to ask bluntly "When did you have" or "Have you ever had syphilis?" The sore being admitted, questions concerning incubation and subsequent history will help to form conclusions as to the probable nature of the lesion. (h) The opportunity for education, the years in school and the grades attained. (i) The past and present occupation and the hygienic surroundings and associations incident to each. (j) Home environment, remembering that it is not only the housing but likewise the associations in the house which make either for health or disease. (k) The habits in the use of tea, coffee, alcohol, tobacco, drugs, specifying the quantity in each, and then, to get at the truth in some individuals, it is often necessary to use a multiplier from 2 to 6. Moreover, the habits and interests in life, such as church, social work, recreation, sports, bathing, bowel function, food, sleep, are all matters of medical inquiry. (l) Marital history, age of husband and wife at the time of marriage and health of consort since then; the date and product of each pregnancy, noting the age and state of health, the age, date and cause of death of each child in chronological order.

It does not seem necessary to discuss the value of the several lines of inquiry just mentioned. The bearing which former illnesses, accidents, occupations and habits may have on the present illness is appreciated and given more or less complete consideration by most physicians but the mental reactions of the individual to his environment are appreciated by few. It is in the investigation of this phase of the personal history that the clew to diagnosis in many functional conditions can alone be found. Some one has said "Treat the patient as well

as his disease" and this might well be paraphrased "Diagnose the patient as well as his disease." This cannot be done if we fail to study his mental as well as his physical reactions to his environment.

If an individual's environment and his reactions to it may have any bearing whatever on his present illness, then to be of the greatest value in diagnosis his personal history must be investigated from every point of view. The same may be said of his family history, the history of the present illness and of the physical examination. It is through these avenues of investigation, watching his step at every turn, that the physician must pass on his way toward accuracy in clinical diagnosis.

Metropolitan Building.

DISCUSSION

DR. J. C. BOONE, Charleston: The question of diagnosis includes two points: the first is heredity, and that, as suggested by the essayist, is capable of two interpretations. It is said that we have no evidence of any natural selection in the development of the human family or the animal family, but that we have a very abundant evidence of artificial selection. In the human family, with which we are particularly concerned, that has been left entirely to natural instinct. As a consequence we have to deal with the two phases—heredity and environment.

We see heredity so frequently overcome by individual cases that it naturally throws us back on an inquiry into the environment of the subject. So in making our investigations, if we are going to inquire into all the factors, we should be particularly interested in finding out in those cases of bad heredity, as we would naturally speak of it, what manner there may possibly be of overcoming some of the handicaps of our patient. I would simply call attention to that. Without making a scientific investigation of the subject, we cannot get at those subjects of heredity, and we cannot always analyze the particular influence of environment. Both are very large factors.

The question of diagnosis is, of course, the fundamental one in all our practice. The question of treatment is largely secondary.

DR. J. J. SINGER, St. Louis: Most patients come to the doctor to know what is the matter with them. The first question they ask is, "I am sick, what is the matter with me?" And they look for a name—what sickness? Now all those interested in correct diagnosis know that in the majority of instances it is impossible to give a name to the condition because there is no one disease that covers the entire illness of a patient. From the postmortem diagnosis, which are usually the most correct, you will find that the patient has had from eight to ten different conditions. Yet the patient usually expects to hear but one named.

It is not sufficient to be a well-trained diagnostician. That may be accomplished by time and work, but the best diagnostician fails in his duty to his patient if he does not use that knowledge in obtaining the proper diagnosis in his examination of the patient. You will find many patients who have gone from one physician to another, and we are frequently shocked to find that a very large aneurysm, for instance, or an advanced case of tuberculosis, has been overlooked by very competent men. We know that these men know, but they have not taken the time to inquire into the details of the case, as Dr. Graves has indicated.

Doctors are known as good doctors, not by their diagnosis, but by their prognosis. The diagnosis of a case is only the beginning of taking care of a case. You say a man has tuberculosis, or syphilis, or cancer. That is only the diagnosis; the patient does not judge you by that. He will judge most men by their prognosis. "How long will I live; what chance have I for recovery?" And the only way that you can answer these questions is by thorough examination.

To illustrate, I will give this one instance of a case. A young woman comes in with a history of loss of weight and loss of appetite. She looks very anemic, and on thorough questioning, not only of the patient, but of her family, we find that her mother has been in the insane asylum for several years, but hardly insane enough to be confined, and they decided to take the mother home. This young girl works from eight to ten hours a day and comes home to have from six to eight hours of quarreling with her mother. As a result she cannot sleep and of course does not eat. She goes to her work in the morning and is unable to do her work properly, which in its turn causes her worry and anxiety, and thus an endless chain is formed. Now this patient is sick, but we cannot give the condition a name or a diagnosis. I take that back, we cannot give the condition a name, but the diagnosis of the case is that the woman has been so irritated by her mother that she is, to all intents and purposes, sick.

DR. O. H. BROWN, St. Louis: As has been said, too many physicians fail to examine sufficiently. I was called the other day to make a diagnosis on a tumor. The insertion of a catheter removed the tumor. The patient had been urinating regularly and the doctor had not taken the pains to examine carefully.

Then there is the point that often the finding of one condition does not make a complete diagnosis. Dr. Singer said that at postmortem tables there are, as a rule, a number of conditions found; the same thing prevails in a sick individual before he reaches the postmortem table. A diagnosis of syphilis is usually not sufficient. On top of that, perhaps, may be a disease of the thyroid, tuberculosis, or what not?

Again pretuberculosis, or a preactive stage of tuberculosis, is a thing that we should now begin to recognize more than we do; the patient can be treated more advantageously in this stage than after he begins to show active manifestations of the disease.

But the final word will not be said in regard to diagnosis until we have made arrangements whereby an examination is made of the patient, not by one man, no matter how competent he may be, but by a group of specialists, so that the entire individual is covered; and until such group of men may work together in the examination of the patient, making charges within the means of that patient, and not until such time as this will we arrive at the time of accurate diagnoses.

DR. A. H. VANDIVERT, Bethany: I simply take the floor for a moment to emphasize the importance of a careful examination, not only in the class of cases that have been mentioned here—syphilis, tuberculosis, etc.—but in other cases; and in doing it I am reminded of a case that came into my hands under these circumstances. The patient was sent me by another physician, who said to me: "Doctor, I thought yesterday when I examined these patients, that they had pneumonia; this morning there is some doubt in my mind, as I find a good deal of pain developing about the shoulder joints." A further twenty-four hours' development confirmed the diagnosis of pneumonia, but also, the father had a pneumonic abscess forming in the subclavicular region at the site where the pneumonia had first developed. The doctor doubted his own diagnosis, thinking that

it might be a gonorrheal arthritis, and subsequent developments confirmed his first diagnosis, but showed the importance of further investigation.

I have two other cases, both occurring in one week, of pneumonia in children, one having a well-developed pneumonia with rather high temperature, which was causing the physician in charge some anxiety. It was an acute case of lobar pneumonia. A few days after that I was called in to see a patient of the same physician with lobar pneumonia in the right lung, who was developing hepatitis. There had been no question as to his diagnosis; there was no question that he had pneumonia; but he was also developing a hepatitis. So that new conditions are constantly coming up to disturb our minds in regard to the diagnosis we have made, and impressing on us the importance of thorough and frequent examination, not only as to the disease which the patient has, but as to the pathologic conditions which the disease may be developing.

Dr. W. W. GRAVES, St. Louis, closing: The gist of the whole matter in this subject, as I have tried to deal with it today, is in looking for things; in not being satisfied with just one phase of a clinical study, but to look at the individual from every point of view. The factor of heredity which we consider in the family history; the factor of the patient's environment and his reaction to it, which is the personal history; the careful working out of the course of the present illness and of a complete physical examination—these are the essentials underlying accuracy in clinical diagnosis.

Dr. William Jenner was wont to say that more mistakes are made in diagnosis by not looking than by not knowing, and Dr. Grindon practically said the same thing when speaking of a case of acne and the difficulties which many practitioners have in diagnosing skin diseases—they do not look. But the physician must have the desire to know. Whatever our medical training may have been, if we would really feel the necessity of determining what is wrong with a patient before we begin treating him, very few of us would be incapable of making at least a probable diagnosis.

SPINAL CORD NEOPLASMS; WITH ILLUSTRATIONS*

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Tumors of the spinal cord are not very frequent, seeming so especially if we contrast them in a group of statistics of diseases of the entire body. Now, even contrasting tumors of the spinal cord with tumors of the brain, the percentage is considerably smaller; so that tumors of the spinal cord occur with considerably less frequency than in the brain. In this discussion I have not outlined considering the subject very minutely or completely. My primal object in offering this discourse is to report an unusual and interesting case which I have had the opportunity of observing the past summer.

In a pathological survey, tumors involving the spinal cord may be classed like neoplasms

in general, as malignant and nonmalignant. Among the malignant group we find the secondary or metastatic carcinomas most frequently. They have a special predilection for the bodies of the vertebrae and thus involve the cord by indirect compression. Fibromas, angiomas and other nonmalignant growths are encountered. The glioma obviously is found growing from the spinal cord proper only. Rarely have gliomas been observed in the meninges and then only by extensions from some gliomatous area of the cord.

The endothelioma is an interesting type of a neoplasm having a particular choice for the central nervous system. They are nonmalignant. Many of them originate from the meninges, springing from some endothelial lining. They have a comparatively slow growth and are prone to have a characteristic degenerative change with the formation of hyaline and sand bodies.

Cysts may be encountered within the cord or in the meninges. The latter are of much importance in that if single ones are located sufficiently early, operative interference should result in a cure as a rule and thereby prevent a hopeless, dangerous paraplegic state. Cysts have a multiple etiology. I have reported two illustrative cases.

In another classification of tumors of the spinal cord, the anatomical location is used. (1) The vertebral includes those developing in the bony structures, and which may at any time press on or involve the cord. (2) The extradural have their seat in the soft, fatty structures between the dura and vertebrae. (3) The term meningeal expresses clearly the location. (4) The medullary may remain confined to the cord proper throughout its course or at some period project into the meningeal spaces.

The term psammoma was originated by Virchow in 1863. Ten years later in his work on tumors in general, he again refers more specifically to the psammomas. It is interesting to note that Virchow considered these tumors of mesoblastic origin. He said they came from connective tissue. A little later, as we will see, several authorities began to discuss the subject and maintain that these tumors were endothelial in origin. Then there followed quite a discussion as to whether they occurred from vessels or from other tissue cells, especially cells of lining endothelial structure such as the dura. Now, it is interesting to note that in a writing of Virchow a short time before his death he admits that these tumors may originate from endothelial tissues, but still maintains that most of them spring from a mesoblastic source. Probably the earliest writing on the subject was by Robin in 1829, in which he refers to globes épidermique

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(globular bodies). Bergmann in 1831 referred to some sand tumors of the choroid plexus. It is also interesting to note that the pineal gland in persons well advanced in years as a rule contain some of these sand or calcareous bodies. Cornil and Ranvier refer to these tumors as sarcomas angiolithiques, placing them in the sarcoma group, and having their origin from vessels. Borst and Ernst were probably the earliest to refer to these tumors as of endothelial origin, and since their time, and that is only in recent years, many are com-



Fig. 1.—Case Mrs. O.: Psammoma from inner surface of dura, 8th dorsal cord segment, 9 years' duration. Natural size, immediately after removal at operation. See description.

ing to believe that psammomas occur only in endothelial structures. In other words, the psammoma is, strictly speaking, not a calcified tumor itself, but a metamorphosed tumor resulting from retrogressive changes. Admitting that many of the psammomas occur in retrogressions of endothelial new growths, they might be found in some other types of tumors, nonmalignant, and having slow progress.

When the pathogenesis of the psammomas is considered, I believe that the vast majority of them are simply secondary changes in endothelial tumors, as I have already stated. It will be found that the average psammoma is primarily an endothelioma, never having metastasis and that its growth is slow. The endotheliomas naturally arise from regions in the central nervous system which have endothelial structures, frequently growing from the inner surface of the dura.

The case which I am reporting is that of a lady about 40 years of age whom I first saw last June in Los Angeles at the request of Dr. Outland of this city, the patient being a relative by marriage. At that time I diagnosed pressure on the spinal cord, either from cyst or tumor, and made arrangements later for the patient to come to the city, where my examinations were completed. The patient had been married a number of years; never had any children; never pregnant. She had been an unusually healthy individual; a healthy girl and well developed. She had her only serious illness, typhoid fever, at the age of 8 years. She comes from a healthy family; no neuropathic or tumor heredity. Menstruation has been regular until the last five years, when frequently a period or two have been missed.

The onset of this trouble dated eight or nine years ago. The first indication was a simple dragging of the right toes. This continued to increase until the

trouble ascended in the same leg, involving the pelvic muscles within six weeks. About six months later the left leg was involved. Five years ago she began to have much trouble with gait, and began to use crutches to get about. Then three or four years ago she took to bed. She states that she has had periods of quiescence or even little remissions, and then the progress would continue. Four years ago she could walk beside a bed or couch by holding on. Thus the motor development in this case was rather insidious.

She had sharp, fleeting pains in the legs, hips and waist, beginning about three or four years ago. Those were the first pains she complained of; first on the right side, and then in a short time going over to the left.

For a number of months there has been present in the lower extremities cramps which especially would be precipitated by touching the area supplied by the spinal cord segments below the tumor, any part of the body below the waist line. These cramps were never of long duration. In fact, some of the pains complained of and the cramps remind one of various types of pains in locomotor ataxia. Another interesting finding was attacks of jerking; sudden spontaneous movements of the legs much like reflex actions. At the time I saw her she had not been able for some time to move a single joint in the lower extremities, but these involuntary jerking would come on and the legs would be raised two feet in the air at times. These movements were absolutely involuntary, purely lower motor neuro-irritation affairs. These jerking were always shock-like; sudden in their onset.

Numbness began to appear only about two years prior to the time I saw her. She also noticed at about this same time that there was a disturbance of sense of position. There was no knowledge of the whereabouts of her feet and legs. There has

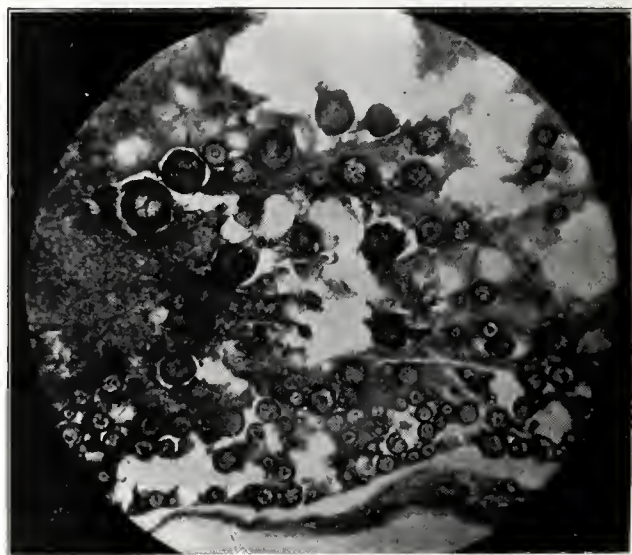


Fig. 2.—Microphotograph from No. 1 (Mrs. O.). Observe numerous psammoma bodies in different stages of development.

been some swelling in the ankles and feet during the past few months. An exceptional feature is, that she did not have any trouble with urination until about three years ago, at which time there was a little delay in micturition. Then in a short time she began to have occasional involuntaries. That is one of the symptoms that was a little atypical for her condition. There was first noticed some trouble in defecation about eight years ago, a trouble which necessitated the making of haste when she had to go to the toilet. As a rule she has had fairly good control of her bowels.

On examination I found that I was dealing with an organic trouble; nothing functional. There was absolutely no movement in any portion of the lower extremities. She had some voluntary movements in the upper abdominal region. The lower portion of the abdomen was rather spastic. There were times during the examination when she became rigid, these spells being of short duration and cramp-like. There was present a particular type of spasticity; her legs would become very rigid, especially when touched. Much of this rigidity or spasticity could be made to

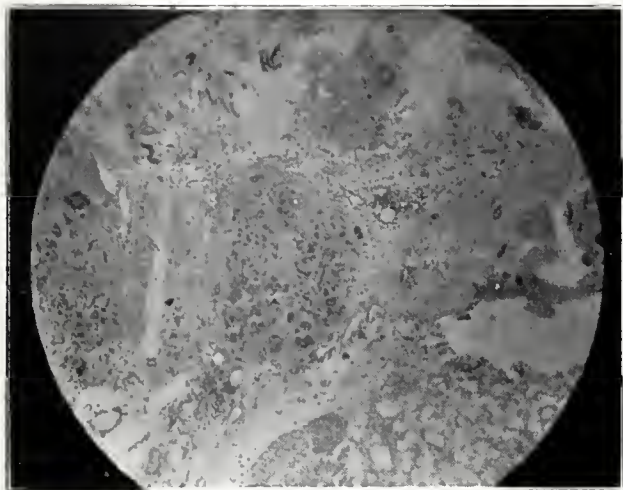


Fig. 3.—Case Mrs. K.: Microphotograph from metastatic carcinoma, 7th cervical vertebra. Original carcinoma in left breast, five years previously operated with no recurrence at original site.

disappear very shortly by manipulating the extremities, and then in one or two minutes at the most her legs would be fairly flaccid and mobile to passive movements. That was true of both extremities. The motor power of the upper extremities and trunk was perfectly normal above the tumor area.

The reflexes were normal above the eighth dorsal segment. Abdominal reflexes were entirely absent, except high up or over the lower border of the ribs. She had tremendously increased gluteal, patellar, hamstring and Achilles tendon reflexes, being the same on both sides, and there were marked patellar and Achilles clonuses.

The patient also had another unusually interesting group of findings, some of the more complicated reflexes or phenomena. The Babinski phenomenon was present to an extreme degree. Stroking any part of the foot would demonstrate marked positive results. Testing for the toe phenomenon by the Oppenheim and other methods elicited the same results. She also had marked movements of defense; for instance, touching any part of the body below the umbilicus would precipitate one of the violent movements of defense much like those of a decapitated animal. The Marie-Foix phenomenon was present. It is a triple retreat phenomenon demonstrated by pressing down on the foot; producing a flexion of the hip, knee and ankle joints, as well as a slow extension of the great toe. The movements of defense were about equal on the two sides. Analgesia and anesthesia incompletely was present over an area downward from a few inches above the umbilicus involving the distribution of the eighth dorsal segments downward. The first three segments, eighth, ninth, and tenth, had an equal amount of sensory disturbance. The changes were more marked further down so that in the area of the distribution of the eighth, ninth and tenth dorsal segments there was a little difference, and a more abrupt jump to a greater diminution of the sensations from the tenth

to the eleventh dorsal segments. More distally in the lower extremities, there was a still greater amount of analgesia and anesthesia.

The vibration tests showed changes corresponding to the analgesic area. There was a marked diminution to the tuning fork perceptions in the lower extremities, including the bony points around the ankle or the knee joint and the pelvic bones. Deep pressure sense was likewise greatly diminished in the lower extremities. It is interesting to bear in mind what occurred frequently during this examination. She had constant spasmodic jerks of the legs when pressing the muscles, and for the moment you might think she was volitionally concerned in them, but there was absolutely no knowledge of these movements. There was a disturbance of the sense of position in the parts having sensory involvement. The temperature sense was markedly obtunded. The area involved corresponds with the other sensory changes. Probably the most interesting sensory finding is the fact that while we had a little gradation of the changes, the line between the normal and the abnormal was absolutely sharp, absolutely true, the same today as yesterday, even with long intervals between examinations. For instance, there was a period of about two months from the time I first saw her until I saw her again in August, and the line separating the normal from the abnormal sensation remained the same, absolutely constant.

I performed a spinal puncture at the third lumbar space. The cerebrospinal fluid was under greatly diminished pressure, registering 40 millimeters, water gage. After the withdrawal of only 3 c.c. the pressure was reduced to nil. The fluid contained nothing pathological, chemically or microscopically, especially no trace of any tumor cells. A Wassermann test was requested by one of the consultants, carried

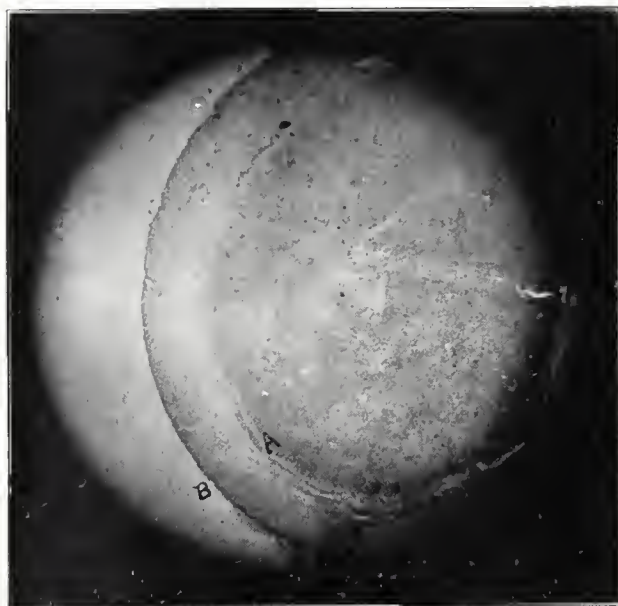


Fig. 4.—Case Mr. L.: Glioma, fourth dorsal segment, low power microphotograph, autopsied specimen. Tumor nearly replaces cord. Narrow rim of compressed cord remaining, A to B.

out, and yielded a negative report. The clinical neurological findings prevented me from ever entertaining any possible thought of luetic trouble.

An operation was performed at the Swedish Hospital by Drs. Harrelson, Outland and myself. Just prior to the operation I drew a transverse scratch line over the skin so that it could not be erased about across the sixth spinous process to indicate the exact location of the neoplasm. It is interesting to note that laminectomy with the removal of the

fifth, sixth and seventh spinous processes revealed that this line precisely bisected the location of the tumor beneath the sixth spinous process. The dura was congested and bulging at the site of the neoplasm. It was opened posteriorly in the median line. The tumor was exposed lying a little to the right over the posterior surface of the cord. Remember her symptoms originated on the right side. Everything began first on the right side, and then in a few months or weeks, the pressure going over, involving the opposite side. The tumor was removed entirely, and it had quite an attachment to the inner surface of the dura. This inner surface was cauterized, the dura closed, and the parts closed with drainage.

Pathologically the tumor presents some interesting features. It is a globular body, somewhat elongated, and encapsulated. It measures 35 by 15 by 13 mm. Several spots are presented on the surface which have the appearance of cicatricial tissue. There is some stroma throughout. The bulk of the tumor is composed of endothelial cells with numerous psammoma bodies. The so-called sand bodies are more numerous near the peripheral portions of the neoplasm. Various stages in the psammoma development are seen. The tumor is a classical psammoma.



Fig. 5.—Case Miss C.: Metastatic mixed cell tumor located in extra dural fat, tenth dorsal segment secondary to a previously operated mixed cell tumor of parotid gland.

After some weeks in the hospital and a private home, the patient returned to her California residence. It was noted immediately after the operation that the urinary control had diminished to a state of complete defect. Control of the anal sphincters decreased, there being some knowledge of defecation. She was relieved of the spasmodic spinal convulsions, there being a gradual subsiding of these abnormal movements. A recent report indicates a gradual improvement of all functions except voluntary motor power in the lower extremities. She has urinary and fecal control. It is possible that the motor power which had been completely absent for four years may never return.

In the diagnosis of a compression or tumor involving the spinal cord we are compelled to acknowledge the great value of metamerism, each segment having a pair of roots which have a fairly certain anatomical distribution. The data from motor, sensory and reflex studies of these segmental areas have an abso-

lute diagnostic value. A proper anatomical and physiological knowledge of the peripheral nerves, roots and spinal cord is essential. It is not difficult to state that there is a lesion pressing upon the cord, or involving the medullary substance. It is a little more difficult to localize the transverse level. It is still more difficult to determine the vertical layers involved. To ascertain the exact nature of the offending body is quite difficult, and at times impossible.

The prognosis must rest on some delicate conclusions. A pressure upon the spinal cord whether from a solid tumor or a cyst is eventually going to produce a slow degeneration of neurons which cannot undergo repair. Thus we should diagnose cord compressions at an early stage, in which surgical intervention offers a more brilliant prospect. A complete urinary and fecal incontinence, and trophic disturbances are to be feared. Spinal cord tumors ought to offer a higher recovery rate than brain tumors.

Wherever a transverse lesion of the spinal cord exists and malignancy cannot be ascertained absolutely, it is a case for surgery and should be operated early. The case cited should have been examined by a man competent in neurologic technic, a correct diagnosis made, and operated several years earlier. The motor paralysis might have been checked, as is the case regarding urinary and fecal control. Laminectomy is a capital operation but need not be excessively feared. Horsley and McCosh speak quite optimistically about laminectomies. The tone of H. Schlesinger's remarks in his monograph on cord tumors seems unnecessarily depressing. I think we have a right to be quite enthusiastic regarding operative intervention in properly selected cases of tumor of the spinal cord.

1316 Rialto Building.

SOME EXPERIENCES IN SUBDERMAL MEDICATION *

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By subdermal medication I mean the practice of administering medicines into or beneath the skin by means of an hypodermic syringe. In this paper it is my purpose to discuss such hypodermic medication as comes well within the daily routine of the general practitioner, being such experiences as I have myself had in a more or less limited patronage.

* Read at the 59th Annual Meeting of the Missouri State Medical Association, Excelsior Springs, May 8-10, 1916.

For the purpose of making myself more easily understood, you will pardon me for giving the following classification of hypodermic methods of giving medicines:

1. Intradermal.
2. Hypodermatic.
3. Intra-areolar.
4. Intramuscular.
5. Intravenous.

Note—I have avoided the mention of intraspinous method, having had no experience of my own in that field.

The first essential of satisfactory hypodermic administration is a good equipment. There is nothing more disgusting to me than to see my nurse or consultant produce an old battle-scarred leather-pistoned syringe with a leaky barrel and a dissipated, rusty needle, with one or more washers lost. In this day and age of the world such an outfit is both "rank" and inexcusable.

I consider the Luer all-glass syringe, armed with a platinum needle, the acme of simplicity, sanitation and service; just the three essential parts, the needle, the barrel and the plunger. For every day use the 2 c.c. is sufficient, even for intravenous use. So far as I know, this equipment has only one drawback: If you leave it to dry without rinsing, the plunger will stick, after the injection of morphia or of any resin bearing drug. Should such accident occur, boil the syringe and the piston will be released.

I employ the intradermal injection only for the purpose of producing local anesthesia. It is not the purpose of this paper to discuss the tuberculin treatment or luetin vaccinations as I have had no experience with either. My attempts to wall off or hinder the advance of focal skin infections have proven futile. I have tried to stop the spread of carbuncle and erysipelas by intradermal injections of phenol and mercury but without avail.

Hypodermic injections have become so universal in employment that words from me at this time would seem superfluous. Nevertheless, I cannot refrain from mentioning a drug which I use more than any other—sodium cacodylate. It is my first thought in syphilis in the secondary and tertiary stages; it is safe and effectual. In the secondary stage I inject 3 grains daily till the mouthful of lesions or the skin symptoms disappear. Recently a Wassermann plus 4 consulted me, and ten days' treatment removed the external manifestations. In the tertiary cases, particularly of the neurotic type, I employ the 0.75 grain dose for some twenty-one days, when the neuralgias will have vanished. In our health resort patients are coming and going so that it is rare for a patient to remain under observation long enough to record ultimate results, but

the greatest good to the greatest number and in the shortest period of time has come to me through the use of the cacodylate of soda given hypodermatically.

To correct acidosis in diabetes, I employ the cacodylate in 0.75 grain dose daily and get results. Arsenicals per orem in this disease are shorn of much virtue by chemical action before the agent reaches the battle field, hence the hypodermic use. In psoriasis and other skin diseases the cacodylate helps me to remove the lesions whenever I can get permission to use it. In blood dyscrasias and in the aestivo-autumnal type of malaria, as well as in pellagra, its action approaches the nature of a specific.

I want to say a word in regard to the alkaloids of the vegetable nauseating drugs in hypodermic medication. The action of emetin in pyorrhoeic and amoebic infections has gone beyond the experimental stage as the best treatment. There is no question of a doubt as to the specific action of lobelia in spasmodic laryngitis. Recently I gave 20 drops of tincture lobelia hypodermatically to a boy of eight who was almost cyanotic in his struggle for breath; the mother thought he was dying; he was relieved like magic, almost before I had put my syringe away. It is the old way, to call this an anti-spasmodic action. I believe it to be a very rapid bacteria-killer. And I believe all the nauseant vegetable drugs possess this action. I would include sanguinaria and inula (elecampane). I believe if we ever conquer the white plague we shall do it with the products of these neglected servants that have given us results in respiratory diseases so long, and it is strange to me, with the finger of time pointing to them, why we have not seen.

There are two warnings I would give in hypodermic medication: When using a drug that stains the skin or produces lumps or tumefactions under it, always resort to deeper work. Your female patients are loth to wear the marks of a dope fiend, however innocent they may be, and while I am writing this paper, a man came in swearing at a row of fibrous nodules on his back and hips, produced by injections nearly a year ago.

I resort to the intra-areolar method when possible in giving sera and vaccines, in the hope of getting more rapid results, easier absorption and less local irritation. I am waiting on this method in auto-sero-therapy and may have something to report at some future time.

I shall mention in regard to the intramuscular method my experience with sciatic neuritis in a few cases wherein the cause was beyond me. I reasoned that a sciatic lesion, either traumatic or infectious, was harmed by being walled in by leukocytes, as in the case in other types of lesion. Nature here is in my opinion blind to her own welfare in her efforts to heal.

At least I reasoned that we might deal better with the lesion if we were unhampered by nature; and believing that quinin inhibits, if not dissipates leukocytosis, I tried the intramuscular injection of quinin and urea hydrochlorid in large doses so as to relieve the pain as well. I have "shot many a leg full of the stuff" with the result of relieving my patient in much shorter order than I had been accustomed to before, and I am glad that some of my contemporary physicians have had equally good results. To discharge the dose in the immediate vicinity of the nerve is a somewhat difficult essential. I have not tried the method in other forms of neuritis but I have wondered what we might possibly do with violent forms of trigeminal neuritis by the same method of treatment.

Intravenous injection is accomplished with the little syringe, so easily that the general practitioner will fall in love with the method and the patient will cease to be horrified when he learns how easy the procedure is. Of course the dose must be inside the capacity of the syringe, be it 2 to 10 c.c. or even more. I use solutions of radium intravenously as well as sodium cacodylate. The technic is as follows:

1. Cleanse the site of injection.
2. Apply constriction above; a rubber catheter suffices.
3. Paint site of injection with tincture iodine.
4. Introduce needle proximally; a tiny jet of blood in the syringe will announce the entry into the vein.
5. Remove the ligature. Inject slowly. Withdraw needle.
6. Dress with thin layer of cotton and colloidion.

By this method we plead the minimum of pain, rapid and certain action and freedom from danger.

RURAL SANITATION *

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CHARLESTON, MO.

It is more difficult to establish sanitary measures in the country than in the city, for people living widely separated from each other do not so readily see the necessity for protecting themselves against a neighbor's unclean premises. But that unwholesome food, unclean premises and stagnant water may bring disease to his own household, is beginning to take hold on the rural inhabitant. Food being largely a matter of home production it has been difficult for him to realize that impure food sold into

the local or foreign market may be returned to him or his neighbor and produce baneful results. That disease is largely the result of insanitary conditions around his own or his neighbor's place is hard to impress on him.

Custom is the hardest thing in a community to overcome. This is particularly true of rural communities. There are many sanitary measures that come in conflict with community customs that are violated for that reason alone. "What was good enough for my father is good enough for me" is a maxim by no means dead in the country districts. People necessarily live considerably apart from each other in rural communities. Their associations are therefore limited. These two factors have produced an individualism that makes it hard to inaugurate public measures. Each community must be led to see the benefits from its own peculiar point of view.

A great deal of information on how to prevent disease has sifted through the rural public by means of newspaper articles, pamphlets and occasional lectures, but a good part of it is misunderstood. The fly, his habits, breeding and social instincts would appear to be pretty well advertised, yet a good many otherwise well informed people think the "green fly" is the propagator of all the other flies. The newspapers have published insistent advice about cans, bottles and rotting vegetables, and lectured on the mosquito until it does seem superfluous to repeat the advice, and yet a vast majority leave them above ground. Punching holes in cans is not going to relieve the situation either.

Doctors lecture their families as to proper sanitary measures but their advice is generally disregarded. The average physician will not insist on these points. The family will listen with interest and doubtless carry out some part of his instructions, but they generally neglect the most of them. There is no lack of zeal on the part of those engaged in this work. Nor is there want of knowledge to impart nor indifference on the part of the public.

It is well known that dead animals should be burned and the remains buried; that mosquitoes carry malaria; that privies should be inclosed and that manure breeds flies; but regulations concerning these things are not inaugurated. County boards of health pass resolutions for correcting these things and quite frequently urge their observance, but as the health officer is paid nothing for his services, he quite naturally does not devote much time to it. And in those cases of flagrant violation of sanitary rules it is a difficult matter to secure the necessary two witnesses. In cases of smallpox the health officer is sometimes forced to run a bluff

* Read at the 59th Annual Meeting of the Missouri State Medical Association, Excelsior Springs, May 8-10, 1916.

to get quarantine observed. Under the law each case must be acted on by the board. The board can make special rules covering outbreaks but these are limited to specific times. If a contest should arise disputing the right to enforce a quarantine, the health officer would be at a loss to sustain himself. So far as small pox is concerned it would, however, be advisable to quit quarantining and simply let the malady spread to those who will not be vaccinated. I think health boards should now adopt that plan.

In the matter of food inspection in our small towns and villages our present plan is of very limited value. No charge of incompetency is intended to be made against the inspectors, but what I do indict is the system. The inspectors make flying trips and correct some abuses but they cannot correct the most urgent conditions. Small venders of milk, vegetables, fruits and other edibles are overlooked. An occasional inspection of a bakery or restaurant is of small advantage.

The problem of the fly in the country is a large one. There are many ways of destroying them and a great deal of interest is manifested in the work. The real difficulty now seems to be to organize a plan that will be effective as well as economically possible. A more systematic educational campaign will have to be instituted in order to reach quite a considerable part of the public. Newspaper articles are not read by as many as is sometimes thought; or, if they are read, it is with little interest by those who are the worst offenders. In the matter of the fly and the mosquito the most difficult problem that confronts the rural sanitarian is absentee landlordism, which prevents proper housing of the tenants and, I am forced to say also, that the landlord who occupies his farm but hires a laborer with a family, does not provide a habitation protected from flies and mosquitoes or capable of being made protective. The tenant is forced to live in improperly screened houses and the water supply is often bad. Sanitary conditions are not considered in building a tenant house. This is particularly true of large owners who rent or lease the land out. Landlords should be required in building tenant houses to do these four prime things from a sanitary point of view; viz., properly screen the home, provide wholesome water, establish adequate drainage and provide for the disinfecting of manure. The tenant must himself then keep these things in order allowing for the ordinary wear and tear. This would be a saving both to the proprietor and the tenant as no man can do either himself or his employer justice with sickness in the family.

It is not profitable here to discuss the numerous plans of destroying the fly and mosquito

and other disease-carrying insects. As laboratory and field work develop our knowledge, both of the habits of these pests and the most practical ways of dealing with them, we can adopt them. One of the most prominent features of the present plan of preventive medicine work now is its disorganized efforts. It wastes a great deal of energy and no little resources. As a means of creating in the public mind a desire for better sanitary conditions it has been effective. The time has now come for more systematic methods. There is no pretense here that the public, or for that matter the profession either, is thoroughly posted and enthusiastic for sanitary work. A great deal of patient missionary work is needed. But the time for a more systematic and organized work is now at hand. There are three plans which I propose, either of which would help. I will give them in the order of their least desirability.

1. A system of university extension work jointly with the Agricultural Department. The department of preventive medicine could establish a system of lectures to be given jointly with the agricultural lectures. The speakers could attend the agricultural fairs and demonstrate the practical methods of farm and village sanitation and institute such practices as possible. Some work on the investigation of hookworm in the various counties of the state could be done at these meetings. This work is possible of demonstration easily to the public and would be a useful means of gaining public attention. The Hookworm Commission would work in connection with this faculty. By a persistent effort of this sort the public could be educated to a better plan of sanitary organization. A systematic plan of educating the public as to the work of the medical profession could then be carried out. That the profession has been too conservative in acquainting the public with medical ideas and remedies is pretty well understood. The various theories of medicine and healing that from time to time come to plague the people thrive on our notion of ethics that prevents us telling the public the truth about medicine. In all our work of sanitation or preventive medicine, we must take this fact with us and let our efforts be guided by a sensible and practicable interpretation of it so that the public may understand what is being done. When we divest ourselves of the aureola of mystery with which a misapplied ethics has surrounded us and come into a workaday association with the public, optometry, physio-medics, chiropractics, osteopathy, Christian Science, nature cures and the various other vagaries that hang like swollen ticks on the body of our profession will be relegated to the department of mental curios to keep company with their numerous predecessors.

2. The second plan is for one or more counties to organize into health districts with all time health officers paid by the district so incorporated. Under the present laws this can be done. Each incorporated town or village would have to surrender its health board to that of the county. A district board would then have to be organized out of the various boards composing the whole district. The advantages of this plan over the first will be those that I will point out in discussing the third plan. There are some difficulties to be considered in this plan. It is slow of accomplishment and expensive to the one undertaking to organize it as he must devote a considerable part of his time to the work of organizing. The shifting of officers and political or private interests and animosities will constantly interfere with him. After the district is organized his work would be curtailed in its effectiveness unless adjoining counties organize also. The equipment for work would be curtailed because of the expense attached to it. Most of the counties are not able even by joining forces to maintain any diagnostic laboratory.

3. Establish sanitary districts over the state under the control of all time health officers paid by the state. Let the districts include all cities, towns and villages up to cities of the second class, these to be organized as at present. Each district should have a district board of health instead of the present numerous local boards. This would preserve the idea of local selfgovernment. There are several advantages in this plan. In the first place it is a conservation of energy and promotes efficiency. Our present plan wastes a great deal of energy and is cumbersome to handle. Where there are so many boards of health it is nearly impossible to get any unanimity of action, and where health officers and boards of health are paid nothing for their services they subordinate those services to every other interest. It is more economical to handle the sanitary work under district organization. Any business organized under a competent head is more economically administered than when attended to in a haphazard manner. The health officer could enforce sanitary regulations in the case of indolent or refractory violators. By cooperation with the pure food commission their rules could be made more effective in rural communities. With all-time health officers at work among the people instructing them in matters of health and disease, the public could soon be informed on the real value of medicine. Laboratories could be established in the districts for diagnostic purposes and would supply the country doctor with the much needed aid to diagnosis in a quicker and more satisfactory

time than at present. Research work could then be done to a quite considerable extent that is now neglected.

A coordinate work with the State University Laboratory could be established that would not only help the district but be of value to the university. After considerable inquiry along these lines of sanitation I am convinced that the people would welcome its inauguration. If we will quit agitating the public over these fads and fancies that infest the country and confine our work to constructive legislation we can soon secure good sanitary laws and proper medical legislation.

AN UNUSUAL CASE OF STATUS EPILEPTICUS

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FARMINGTON, MO.

W. B., age 20, was admitted to Hospital No. 4, March 13, 1914, diagnosis congenital epilepsy. He was slightly paralyzed on the right side, which dated from birth, and it was presumed that the resulting condition was caused by birth paralysis. He had major convulsions regularly, averaging several per week. About three months before death he had an attack of serial epilepsy lasting about a week, during which time he had nearly two hundred convulsions. On Jan. 28, 1916, he began having convulsions, and died Feb. 8, 1916, at 6 o'clock p. m., eleven and one-half days afterward—having had in all 2,031 convulsions. The attendant states that during the first few days a great many of the convulsions were not counted. Afterwards, however, someone sat by the bedside and counted them until he died. During this period he had several lucid intervals, lasting a few hours, at which time he took some nourishment. On several occasions his temperature rose to 103 but did not last long; morphin and bromides seemed to increase the severity of the convulsions. Within twelve hours after receiving three-fourths of a grain of morphin he had 137 convulsions. The greatest number in any 24 hours was 481; in the last 12 hours of life he had 331.

I fail to find a record of so great a number of convulsions. Clark refers to a case of LeRoy's, in which there were 488 convulsions in 24 hours and 1,000 in 3 days, and to one of Parson's with 2,080 in 4 weeks, 637 in 10 days, 820 in 5 days, 289 in 24 hours.

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EDITORIALS

EDUCATING THE LEGISLATORS

In the last session of the Legislature one of the representatives from Jasper county introduced a bill to license chiropractors to treat the sick and injured. On being questioned by members of the Jasper County Medical Society as to the bill this legislator explained that he thought the bill was to license chiropodists, admitting that he did not know the real purport of the measure he introduced.

After this experience the Jasper County Medical Society decided to invite the candidates in the recent election to a dinner for the purpose of getting their views on the subject of medical legislation and especially the chiropractor and optometry bills, which will certainly appear at the next legislative session, and to explain the attitude of the organized profession toward bills affecting public health.

The candidates from the two parties were given different evenings. The Secretary of the State Medical Association was invited to attend both meetings and he spoke to the candidates and members on the aims and purposes of the organized medical profession. He showed clearly that the knowledge being constantly gained by medical science in the treatment and prevention of disease tends to a gradual reduction of the income of reputable physicians. He cited as examples what had been done in diphtheria, yellow fever, typhoid fever, malaria and the hook-worm. It was plainly shown that none of the cults, quacks, and semi-religious bodies, practicing medicine legally or illegally, is doing anything to prevent disease.

All the candidates responded heartily to the address of our State Secretary and the general impression is that the meetings were of benefit not only to the residents of the county, but also to the candidates. Much of the address of our Secretary was a revelation to the invited guests and the society members had a better view of the candidates and their intentions than could be gotten at any ordinary gathering. The candidates promised to consult the Jasper County Medical Society on all public health bills.

It behooves the medical profession of this

state to assist their senators and representatives at the next session of the Legislature. These men need light on medical and sanitary subjects. They can get it only from the regular medical profession.

For many years we had the aid of Drs. Allee, Lutz and Wallace in the Legislature but they are gone with their valuable experience, and a generation will hardly find their equals. The best efforts of our profession at the next session of the Legislature will be required to prevent ignorance and avarice from taking seats beside the trained physician in the eyes of the law.

FALSE AND FRAUDULENT

The vigorous prosecution of offenders against the pure food law by the government is making it increasingly difficult for the guilty to escape punishment, but every conviction should be given wide publicity so that the people may learn of the frauds practiced on them. We hope our members will take note of the two cases cited below and let the people in each community know the facts.

On June 24, 1915, an information was filed against the J. & C. McGuire Medicine Company, a corporation with its principal place of business at St. Louis, Mo., charging a violation of the Food and Drugs Act. The product manufactured by the defendant company was known as McGuire's Benne Compound and claimed to be a valuable remedy for diarrhea, dysentery, cholera morbus, summer complaint, children teething, flux, etc., and a great preventive of Asiatic cholera. The government charged that the statement appearing on the label "The Reliable Specific for Diarrhea, Dysentery, Cholera Morbus—A Great Preventive from Asiatic Cholera," was false and fraudulent in that the medicine did not contain ingredients effective as a specific for the diseases mentioned, and that the article was further misbranded in that it bore the statement "perfectly harmless" when in fact it contained 1/10 grain of morphin per fluid ounce.

Experts appearing for the government testified that the product given according to the directions appearing on the label was not a specific for diarrhea, dysentery or cholera morbus and was not a great preventive of Asiatic cholera; and further that the statement "perfectly harmless" was false in that the medicine administered according to the dosage given in the directions might prove very harmful in the case of infants in view of the susceptibility of infants to morphin.

The directions called for the administration of one-half teaspoonful of the medicine every

three hours. A half teaspoonful was found to contain 1/100 grain of morphin sulphate. The directions, in addition, called for an injection after each action of a quantity of a mixture found to contain 1/225 of a grain of morphin sulphate.

The case was tried before a jury which on Oct. 21, 1916, returned a verdict of guilty, and on October 31 the court assessed the maximum penalty under the act — \$200 and costs.

On Sept. 12, 1916, an information was filed against the Victor Medicine Company, a corporation with its principal place of business in St. Louis, Mo., charging a violation of the Shirley amendment to the Food and Drugs Act. The information was in three counts. The first count charged that Victor Remedy No. 17, which was labeled "The All-Surpassing Remedy for Gonorrhea and Gleet, Both Sexes," was misbranded in that it represented falsely and fraudulently to purchasers that the remedy was an "all-surpassing remedy for gonorrhea and gleet, both sexes, when, as charged, in truth and fact, it did not contain ingredients effective for the purposes claimed. An analysis of the alleged remedy showed it to be a 0.5 per cent. aqueous solution of ichthyol.

The second count charged that Victor Remedy No. 19, for chancre and bubo, was misbranded in that the statement "The great and unequalled remedy for soft and hard chancre and bubo in both sexes. Invaluable in all stages of the disease and excellent to promote the discharge of pus, reduce the induration (hardness) and hasten the healing of the ulcers and bubo. No physician or other treatment is ever necessary," was false and fraudulent in that the medicine did not contain ingredients to produce the therapeutic effects claimed. The alleged remedy was found to contain 1/133 grain black oxid of mercury, 1/133 grain potassium chlorid, 1/133 grain potassium phosphate, 1/10,000 grain white arsenic, and 1/1,000,000 grain calcium fluorid, to each 2¼ grain tablet.

The third count charged a misbranding of Victor Remedy No. 6, in that the statement concerning its therapeutic effect "The great remedy for tuberculosis of the lungs, or consumption. Tuberculosis of the larynx, obstinate cases of chronic hoarseness and all impaired functions of the lungs, pharynx, bronchial tubes and air passages," was false and fraudulent in that the alleged remedy did not contain ingredients capable of producing the therapeutic effect claimed. The remedy was found to contain 1/10,000 grain arsenic iodid, 1/133 grain potassium iodid, 1/1300 grain calcium phosphate, 1/1300 grain magnesium phosphate, 1/10,000 grain phosphorus, 1/10,000 grain lycopodium clav., 1/1000 grain stannum chlorid and 1/500 grain phellandrium, to each 2¼ grain tablet.

The defendant claimed that the remedies were homeopathic in character and made in accordance with a homeopathic formula. Experts from both the allopathic and homeopathic schools testifying for the government stated that medicines containing the ingredients named in the proportions given would not produce the curative or therapeutic effect claimed by defendant in the statements appearing on the labels.

The case was tried before a jury which, on Oct. 30, 1916, returned a verdict of guilty on all three counts. The court immediately imposed the maximum penalty under the act — \$200 and costs on each of the three counts.

The physicians who testified for the government in the case of the McGuire Medicine Company are Drs. A. H. Schott, Louis E. Newman and E. W. Saunders. The physicians who testified for the government in the case of the Victor Medicine Company are Drs. H. G. Greditzer, A. H. Schott, C. H. Neilson and Charles H. Goodman.

The physicians who testified for the defendant in the case of the McGuire Medicine Company are Drs. Edward C. Ellerbock and M. W. Reitz. The physicians who testified for the defendant in the case of the Victor Medicine Company are Drs. E. C. Dittlinger, Edward C. Ellerbock and Francis Wm. Kirsch.

The cases were prosecuted in Judge Dyer's court by Assistant U. S. District Attorney W. H. Woodward and defended by T. Percy Carr, in the McGuire case, and by Chester H. Krum and Anthony F. Ittner in the Victor Medicine case.

THE NEW ISOLATION HOSPITAL AT ST. LOUIS

In September of this year the new Isolation Hospital at St. Louis was thrown open for public inspection. The announcement was received with extreme satisfaction by those who are familiar with the needs of the city in the matter of caring for persons afflicted with contagious diseases.

The two buildings now available for the isolation and treatment of contagious diseases permit such separation of the various contagions that cross-infection is wellnigh impossible. The buildings are V shaped, each arm having two floors completely appointed for the care of the inmates in the most modern manner. Thus there are eight floors and eight contagions can be cared for entirely independently of one another. On each floor there are two large, light wards, several small rooms in which the patients in suspected cases may be completely isolated, and larger, glass-framed rooms in

which the seriously ill may receive proper care. Provision has been made for the admission of pay patients and these may have their own private physician attend them under the supervision of the resident physician.

A most striking feature is the provision of large solariums, one on each floor. Each solarium is separated from the ward by a glass partition, the three exposed sides being constructed entirely of glass, thus providing a delightful, sunlit space for the convalescent.

Some rather important details, such as a proper receiving room and laboratory space, depend on the erection of other buildings at a later period. But from the admiring comments of the many out of town physicians who inspected the buildings and the decisive approval of local physicians it seems that the present arrangement leaves little to be desired.

The actual cost of treatment per person is estimated to be \$1.53 per day, exclusive of the various serums used in treatment.

NEED OF A NATIONAL LEPROSARIUM

On March 25, 1916, the Senate Committee on Public Health and National Quarantine made a thorough inquiry through a "hearing" on Bill S. 4086, which provides for a national Leprosy Home. Experts at this meeting from all over the United States were called before the Senate committee and thoroughly questioned as to the advisability of the establishment of such a home. Every one of the witnesses before this committee energetically portrayed the necessity for the government to take measures to prevent the spread of leprosy and to take care of those afflicted with the disease. In other words, they all thoroughly believed in governmental control.

The Senate Committee on Public Health and Quarantine reported the bill favorably and it came before the Senate for unanimous passage but was thrown into the regular calendar order by the negative vote of the senator from Colorado. Therefore this bill will have to come before the Senate in its regular order of business. It is the hope of all who are interested in the passage of this bill that it will not be side-tracked and that it may come before the Senate at its session this month.

Every thinking physician realizes the absolute necessity for such a home. The statistics compiled by the government on the number of cases of leprosy in this country are obviously erroneous because lepers are not reported on account of the terror the disease inspires in the community at large. Workers in this field believe

there must be from 3,000 to 5,000 lepers in the United States, and have observed that the disease has markedly increased since the Spanish-American War when leprosy islands were brought into direct contact with this country through military and commercial intercourse. The writer has observed the disease in many soldiers, who contracted it during their service in the Philippines or other of our island possessions. These men wander about the country from place to place, homeless outcasts, whose suffering is as horrible as that of the lepers of the Middle Ages.

There are only three states in the Union that provide a home for lepers with humane laws for their control and protection. The many pitiful and dangerous cases that are carried through interstate traffic throughout the country compel us to plead with the government, not only for the protection of the public from this disease, but for the protection and humane treatment of those afflicted with it. This can be accomplished only by the passage of such a bill as is now pending before the Senate; namely, Bill S. 4086. Every physician who reads this is requested to use his influence in every possible way. This can best be accomplished by urging, through letter or telegram, his congressman or senator to actively support the passage of this bill.

DEATH OF DR. E. W. SCHAUFFLER

"Death Loves a Shining Mark."

In this, the closing month of the year, we are called on to chronicle the death of another illustrious Missouri physician, the Nestor of our profession in the western portion of the state and a pioneer in western medicine and western civilization, Dr. Edward W. Schauffler of Kansas City. Although exceeding the span allotted by the psalmist by seven years, Dr. Schauffler was actively engaged in practice until a few days before his death. On Tuesday, October 24, he was seized with a disturbance of the heart and gradually sank until his death on October 29.

Dr. Schauffler settled in Kansas City in 1868, soon after his graduation from the College of Physicians and Surgeons in New York. He was a student of Dr. Guerdon Buck, one of the famous old-time surgeons of New York, and long afterward when Dr. Buck's son, Dr. Albert Buck, edited "Buck's Reference Handbook," Dr. Schauffler assisted him and contributed signed articles. Before that time however he had done a great deal of revision of the work of other men for "Ziemssen's Cyclopedia" and

contributed signed articles. He was from the first an enthusiastic member of the American Climatological Society and an honorary member of that body at the time of his death. He was a charter member of Jackson County Medical Society and the oldest ex-president of the Missouri State Medical Association, an honor that was conferred on him in 1878. He was a member of the board of managers of the State Sanatorium for Tuberculosis and medical director of the institution at the time of his death.

Dr. Schauffler experienced all the thrills of life on the frontier, for Kansas City at the time of his arrival was a border town. In the days when the James boys were active he was called from his bed early one morning and put in a carriage on which the curtains were drawn. When he attempted to look out, a revolver was thrust in his face and he was informed he was on a surgical mission and not a sightseeing tour. After a devious trip he was conducted down into a cellar, through a tunnel and up into another house, where he extracted a bullet from a wounded man, applied bandages, and was taken home the same way. Next morning's papers told of a shooting affray on the edge of the city, and Dr. Schauffler was certain from the description that he had treated a wounded robber.

Dr. Schauffler's gentle spirit, his wise counsel, his wide experience in medicine and his learning in varied fields of knowledge made him an outstanding figure in the medical profession. He was loved and revered by all who knew him and honored and esteemed by men in every walk of life. On another page we publish the resolution adopted by the Jackson County Medical Society which gave an account of Dr. Schauffler's career. Commenting on Dr. Schauffler's death the *Kansas City Star* says:

"Dr. Edward W. Schauffler occupied a unique place in the life of Kansas City. When he came to the village at the Kaw's mouth nearly fifty years ago he brought not only a medical training that was rare for those days anywhere west of the Alleghanies, but also the cosmopolitan culture of his rich experience in the Europe of the Crimean War period.

"He was reared under most unusual conditions. His father was born in Germany, lived in Russia, was educated in America and then went as a missionary to Constantinople. The older Schauffler's linguistic ability was the wonder of Southeastern Europe. He could preach in perhaps a dozen languages, and he had a musical gift which his entire family inherited. For many years the Schauffler Friday evening concerts at their home in the village of Bebek, on the Bosphorus, were attended by the foreign residents of Constantinople, the father playing

the flute and each member of the family some other musical instrument.

It was this sort of atmosphere that Dr. E. W. Schauffler brought with him to the frontier town in 1868. He made a place for himself at once, and he continued one of the leading members of his profession until the very last. But his private practice was never allowed to absorb his energies to the exclusion of interest in public affairs. He took his citizenship obligations seriously, and to mention only one aspect of his activities, the development of the tuberculosis work in Kansas City and in Missouri was to a considerable extent due to his energy and initiative.

"His sympathies were quick, his vision keen, his grasp of questions comprehensive, his culture wide, his genius for friendship notable. It is a charming and a vivid personality that has gone out with his death."

AN IMPORTANT WORK ON HUNGER

It is not given to many men to have the opportunity for research granted in full measure, but in Professor Carlson's "The Control of Hunger in Health and Disease" (University of Chicago Press) we see the results of material to work on, a splendid laboratory equipment, and finally the genius to work, all centered on the one problem of the mechanism of hunger. The book deserves therefore more than passing notice. We cannot do better than give a few pertinent quotations:

On page 57 we find the statement as to the basic law of gastric movement: "Our records show that the fundus is quiescent immediately after a large meal has been eaten. The pressure upon the balloon is maintained at a steady level. If a light meal is taken, the tonus variations may be demonstrated immediately after eating. At first they are so slight as to seem insignificant, but they increase in vigor and are usually visible thirty minutes after the meal. In one experiment an unusually large meal was eaten and the tonus waves were distinctly in evidence twenty minutes later. They increase in intensity and may, but do not always, become more rapid. Each wave is of one to three minutes' duration. When the stomach is nearly empty (as determined by the stomach tube or induced vomiting) they become conspicuous, and at this stage of the digestion there usually appear, superposed upon them, stronger contractions which increase in vigor and are felt by the subject as hunger pains. Although it is by no means always the case, it is significant that the first contractions felt as a hunger pang in man may occur when the stomach still contains traces of food."

Rush Medical College and the Missouri Medical College, graduating from the latter in 1875. He began practicing medicine in California, Mo., but later moved to Olean where he lived and practiced until his death. He was a leader in every enterprise that added to the benefit of the people—their trusted counselor in sickness and in health. In our Association he was a bulwark of strength and our chief defense when the onslaughts of cults and isms attacked the medical practice and health laws. He was a faithful and regular attendant at the annual meetings of the Association and nearly always a delegate from his county society. He was one of the original sixteen councilors when the Association was divided into councilor districts in 1903, and he served on many committees and in any capacity where he could be useful to the organization. In 1907 he was elected president of the Association. He was state senator from the twenty-seventh district for eight years serving in the forty-fifth, forty-sixth, forty-seventh and forty-eighth general assemblies, succeeding Dr. Frank DeVilbiss of Tipton, who had represented the district in the forty-third and forty-fourth sessions. In all these sessions Dr. Allee was an influential factor and served on many important committees. He was president of the Miller County Exchange Bank at the time of his death, a position he had occupied for twenty-four years. He was buried at Olean, October 12, in the presence of about two thousand friends from all parts of the state. The Missouri State Medical Association was represented by Drs. J. Franklin Welch, president; A. R. McComas, chairman of the Judicial Council; Frank DeVilbiss, councilor of the eighteenth district; and E. J. Goodwin, secretary. About thirty other members of the Association were present. The ceremony was a very simple and beautiful expression of the affection and love of the people for Dr. Allee, which accorded with the simple and unostentatious life of our friend and fellow member.

Dr. Frank DeVilbiss of Tipton spoke briefly of the good deeds of Dr. Allee and introduced the other speakers. The Rev. Edmund Wilkes of Columbia offered a brief and appropriate prayer. He was followed by Hon. R. F. Walker, judge of the supreme court, who delivered a beautiful tribute to Dr. Allee which will live long in the hearts of all who heard it. We have received permission to incorporate the address in our pages and make it a part of our record. Judge B. G. Thurmon of Nevada was the next speaker and told of many incidents in the life of Dr. Allee. Judge T. D. Hines of Jackson

touchingly described many acts and deeds that were characteristic of Dr. Allee, and Mr. William C. Heck, Jr., of California, Mo., read "Abou Ben Adhem" with feeling emphasis, a poem that Dr. Allee loved. Our president, Dr. Welch, in a few brief and sympathetic remarks described the great service Dr. Allee had rendered the medical profession and his constant watchfulness to safeguard the health of the people.



WILLIAM SYLVANUS ALLEE, M.D.

Born 1852

Died 1916

President Missouri State Medical Association 1907-1908

Several of the county medical societies have adopted resolutions on the death of Dr. Allee, and we give space to those received in time to appear in this issue.

ADDRESS AT THE FUNERAL OF DR. W. S. ALLEE

HON. R. F. WALKER

Judge, Missouri Supreme Court

JEFFERSON CITY

The payment of a proper tribute to a departed friend involves a sad and difficult duty. Too much said savors of flattery, never to be employed in speaking of those whom we love; too

little said indicates indifference and thus fails to portray either the true character of the subject or the feelings of the speaker.

He who has so recently passed into the Valley of Silence, and whose obsequies we are here to observe, was my life long friend. Our heart ties, formed in boyhood, have been but strengthened and rendered more enduring as the fleeting years crowned us with youth, manhood and middle age. Much as I loved him and tenderly as I cherish his memory, I would be less than his friend if, standing over what was but recently his splendid self, I essayed to say aught that did not accord with truth. Other than this he would not have me say.

It has been my good fortune and pleasure in the years that have been allotted to me to know, and to know well, many men. Not a few of these I am proud to say have been, or if still with us, are my friends. I find as the years creep on apace that the number of these constantly diminishes, the circle perceptibly lessening as we travel toward the sunset. Very recently I have been keenly reminded of this by the hushing of familiar voices, the stilling of loving hearts and the folding forever upon breasts of clay of friendly hands; and I sometimes wonder if, after all, it is not best that we should be called into the beyond before all the loved ones have answered the final summons and we are left to walk among strangers. Just the other day Judge W. M. Williams of Boonville and Howard Gass of Jefferson City died, and now, following fast on their going, we are called on to mourn the loss of this dear friend whose inanimate form lies before us, insensible alike to the sorrow of loved ones and the spirit of sadness which prevails over this great assembly of neighbors, friends and admirers from near and far who have gathered here to pay a last kindly tribute to him who was indeed a friend to all.

I have felt it appropriate to speak of the loss of Judge Williams and Professor Gass at this time not only because they were estimable men and excellent citizens, but having been life long friends of Dr. Allee's and mine, his going added to theirs trebles my bereavement.

Bear with me while I chronicle, if it be but the chapter titles in the life of our departed friend.

William Sylvanus Allee, for thus he was christened, had not, when beckoned into the beyond, reached the limit allowed to man by the Psalmist; but short as his life's lease may seem, reckoned merely in years, it was full of high purpose, well directed effort and satisfactory fulfilment.

After securing a collegiate education, largely through his own efforts, he chose medicine as a calling and diligently applied himself at different professional schools until he was awarded a diploma. He located first in Moniteau county where for a number of years he was busily engaged in the engrossing duties of a country doctor. Subsequently he came to this county where he added to the circle of his activity and usefulness the callings of merchant and banker. For more than a quarter of a century these callings, and another in which he served the people in an official capacity, have occupied his time. It is wonderful to us who have given our lives to one pursuit that Dr. Allee should have borne the multiplied burdens of these different vocations with seemingly no great effort and without hurtful worry. This is all the more remarkable when we consider that he was at all times engaged in the practice of medicine. Many men find themselves unequal to its onerous duties alone. Certainly there can be no more responsible or exacting calling than that of a country doctor. Almost every other vocation has its periods of rest and recreation, that of the physician has none. His time is never his own. Regularity of hours he cannot know. Human ills are heedless of hours, seasons or weather. At the call of the suffering the doctor must go without halting, whether it be at high noon or midnight, in blistering heat or in biting cold. Whatever may have been his nature originally, the frequent calls made on him for relief soon fill his heart with sympathy until he responds in a spirit of brotherly love akin to that manifested by the Master. We, who have not been subjected to this refining influence, can have but an inadequate conception of the practical good accomplished day after day by these real ministers of mercy.

No man possessed more of the milk of human kindness than Dr. Allee. Aside, then, from the sundering of the sweet ties of affection which bound him to the members of his home circle and his family, his loss to the community cannot be measured in words. It will be a long, sad day, therefore, before those in the heretofore wide circle of his friends, many of whose faces I look into today, who sought his counsel and leaned on him for relief, have ceased to mourn his loss. He was in truth to those burdened with the cares and worries of life or afflicted with disease, as the shadow of a great rock in a weary land.

Trusted in his mercantile and banking business as he was in his profession, he will be missed not only by those to whom he ministered in affliction but by the men of affairs in

On page 69, Professor Carlson states his conclusion that the gastric contractions cause the sensation of hunger. He repeatedly calls attention to the distinction between appetite and hunger, and believes that the former is more of a complex than the latter. For example, on page 98 he says: "It is thus clear that a certain sensation complex from the viscera and an approximately normal state of central correlations constitute a necessary background for the development of appetite. Given this background, the central and essential element in appetite is the memory processes of past experience (sight, smell, taste) with palatable foods."

On page 111, we find: "From our experiments we conclude: (1) The stomach mucosa is endowed with heat and cold nerve endings. (2) These fibers are, as Head suggests, of the protopathic type; that is, they are not stimulated by slight temperature changes, or if they are, the impulses do not affect consciousness. (3) They are more abundant or more readily stimulated in the throat and esophagus than in the stomach."

On the other hand, the sensations of fulness and satiety do not originate in the stomach mucosa but rather in the tonic gastric musculature (pp. 111-113).

"Normal persons may experience pangs of hunger and something like mild nausea or 'sick stomach' at the same time, without confusing the two sensations, provided there is a certain degree of hyperexcitability of the nerves of the gastric mucosa" (p. 115).

Dr. Carlson finds that hunger contractions are more vigorous in the young than in adult or senile. In the adult the period of quiet after a full meal varies from four to six hours, in the normal breast fed infant the average time is only two and a half hours, the maximum being three and a half hours and the minimum two hours and twenty minutes. Therefore "the stomach of a normal infant is ready to receive food from two to three hours after the previous nursing" (p. 121). "The decrease in gastric hunger activity is proportional to the advance in age" (p. 123).

On the subject of starvation as a therapeutic agent, the author has this to say (pp. 137-138): "We are familiar with but not particularly impressed by the arguments of enthusiasts who advocate starvation as a panacea for various human ills. But this personal experience leads us to suspect that there is more value in some of these measures than is ordinarily considered. Civilized man has traveled far from the conditions of life among wild animals and primitive man, with whom periods of starvation are not

uncommon. Occasional periods of starvation, say once or twice a year, in the case of healthy adult persons may not only add to the joy of living but also to the length of life. There is some evidence resulting from experiments with animals that periods of starvation may accelerate growth and improve the general body metabolism (Deland, McCollum, Howe, Morgulis)."

On the question of the nervous control of the stomach, Dr. Carlson summarizes his findings thus (p. 191): "The inhibition of the tonus and the contraction of the empty stomach by stimulation of the gastric mucosa persist after isolating the stomach from the central nervous system, but the inhibition is diminished in intensity and duration after section of the splanchnic nerves, and somewhat more so after section of the vagi nerves. It has been shown that section of the vagi leaves the stomach on the whole permanently hypotonic, except during prolonged starvation, although there seems to be a gradual improvement in the efficiency of the local tonus mechanism. Is it not possible that the lessened inhibition after the vagi lesion is due to the depression of the excitability of the local afferent nerve endings in the mucosa or depression of the local reflex center similar to the tonus depression? Our experiments do not exclude this possibility, but the results on the dogs with only the splanchnic nerves severed show conclusively that it is not the sole factor; for in these dogs there is no gastric hypotonus, and yet the inhibition from the gastric mucosa is diminished."

On page 192 he says, "The experiments on man and normal dogs led to the conclusion that contractions of the empty stomach cannot be induced by the stimulation of the gastric mucosa — that such stimulation causes inhibition only." And we find this on pages 196-198: "When the vagi and splanchnic nerves are intact all mechanical and chemical stimulations of the intestinal mucosa cause inhibition of the gastric tonus and hunger contractions. The effect of a purely mechanical stimulation (rubbing the mucosa with a glass rod or rubber tube) is the most transitory. In general pure gastric juice and the 0.5 per cent. HCl cause the longest inhibition. The acid peptone solution followed these closely. The weaker acids produced inhibition of less duration. Saturated carbonic acid solution did not give quite so distinct an inhibition as the other acids. Inhibition with pure gastric juice and the acid peptone mixture varied in duration from three to twenty minutes, depending apparently largely on the condition of the animal at the time. The sodium carb-

nate solution caused inhibition of less duration than acid mixtures, but of longer duration than the water or the neutral mixtures in general. However, the longest inhibition obtained in any one experiment was produced by 10 c.c. of milk in the gut. In this case the inhibition lasted thirty minutes. Ordinarily neutral solutions produced a longer inhibition than the mechanical stimulation by moving the soft rubber tube in the intestinal fistula. . . . We may conclude, then, that: (1) Gastric juice, chyme, acids, alkalies, water, milk, and oil introduced into the small intestine inhibit gastric contractions and gastric tonus for varying periods. (2) This inhibition is due partly to mechanical, partly to chemical, stimulation of the intestinal mucosa. The chemical stimulation produces the greatest effect. (3) This inhibition takes place primarily by the 'long' or central reflex path, but 'short' or local reflex paths in Auerbach's plexus are also involved (Elsesser)."

Our smokers will be interested in learning that "smoking inhibits the gastric hunger contractions" but in moderate amounts "does not inhibit the gastric movements of digestion" (p. 200).

Of interest also is the finding that the pressure of a belt does have an inhibitory effect on the gastric hunger contractions, but at their maximum has little or no effect (pp. 200-201).

Hunger contractions are induced by blood conditions rather than by local conditions, or to quote the summary on page 228: "Blood from starving animals and animals in pancreatic diabetes transfused into normal animals acts as a temporary stimulus to the gastric hunger mechanism."

"Excessive hemorrhage is followed by a temporary augmentation of the gastric hunger contractions."

"Prolonged starvation, pancreatic diabetes, and possible excessive hemorrhage result in some change in the blood that acts as a stimulus to the gastric hunger mechanism."

"The character of the parallel between the hunger contractions of the main stomach and of the stomach pouch supports the view that these contractions are caused primarily by a gastric automatism and not by motor impulses via vagi nerves."

"Eserine and pilocarpin augment hunger contractions, while morphin produces profound inhibition. Pituitrin produces an initial augmentation: amyl nitrite, calcium chloride, etc., a temporary depression" (p. 229).

An intensely practical point is brought out with regard to the secretion of the gastric juice. It is summarized thus (pp. 245-246): "The fluid contents of the 'empty' stomach vary from nothing up to 150 c.c. The average of a number of tests varies with the individual from 30 to

50 c.c. The quantity is greater in the morning than at noon or at 6 p. m. It is on the whole greater in the summer than in the winter months. The most important factor in these daily and seasonal variations is probably the tonicity of the empty stomach and the rate of the continuous secretion. The gastric glands in the normal person are never completely quiescent. The continuous secretion varies from 2 to 50 c.c. per hour. The higher figures are exceptional, but may obtain for several days in succession, again to revert to the lower figures. The vagus secretory tonus is a possible and the autodigestion of the gastric juice itself is a probable factor in this continuous gastric secretion. The secretion itself is rich in pepsin, but when the secretion rate is very low it is poor in free hydrochloric acid. Chewing on indifferent substances not related to food does not cause secretion of gastric juice, that is, these processes do not augment the continuous gastric secretion. Seeing, smelling, and possibly thinking of palatable food usually cause a very slight and transitory secretion of gastric juice. The rate of secretion of gastric juice on mastication of palatable food is directly proportional to the palatability of the food. During mastication the average rate is 3.5 c.c. per minute (minimum rate: 1.4 c.c.; maximum rate: 10.8 c.c.). On cessation of chewing the secretion rate diminishes rapidly so that in fifteen to twenty minutes the gastric glands reach the level of the continuous gastric secretion. The chemistry of this appetite gastric juice is practically constant."

These extracts show the value of this contribution to medical literature and how practical and valuable it will be to those physicians who base their practice on the data obtained from physiology and pathology rather than on rules o' thumb. We hope the book will be appreciated by our profession.

We note a tendency to a peculiar orthography: Thus "esserine" and "gastro-intestinal"; which will probably be changed in the second edition.

G. H. H.

OBITUARY

WILLIAM SYLVANUS ALLEE, M.D.

Dr. William S. Allee of Olean, treasurer of our Association and chairman of the Council on Health and Public Instruction, died at the Wesley Hospital in Kansas City, Oct. 9, 1916, following an operation for intestinal obstruction, age 64. He was born in Moniteau county, Mo., and obtained his education in the district schools and at the University of Missouri. Between terms he taught school and, largely through his own efforts, obtained his medical education in

the community who reposed confidence in his integrity and business ability, listened to his counsel and confided their possessions to his keeping.

Not alone in the callings we have mentioned was Dr. Allee distinguished. In the councils of his party his voice was potent and his advice did not go unheeded. In the halls of legislation, as a member of the state senate, he introduced and secured the enactment of many laws to promote and protect the public health and for the better conduct of the affairs of state. If he had but this record alone it would suffice when history is correctly written to entitle him to a place among our immortals. The time and the temper of this sympathetic concourse of his fellow citizens, more concerned than all else in the human side of their departed friend, render it inopportune for me to dwell on the particulars of his legislative career. Look at your statutes, which bear ample testimony of his ability, industry and unflagging efforts to render our laws promotive of the public good. Our magnificent state house now approaching completion was not only rendered a practical reality but its erection hastened through his persistent efforts. The people of Jefferson City, especially those familiar with this phase of legislation, know this full well and would not hesitate now to award him the meed of praise for his public spirited efforts; but republics are forgetful, if not ungrateful, and but a few years will elapse until his acts will be forgotten. I would have this otherwise; and before the evening bell calls me across the bar I desire that the people of our capital city may show their appreciation of his work by erecting in the capitol grounds a suitable monument commemorative of his services in the laudable work of rendering possible the building of a capitol worthy of the great state of which he was proud to be a citizen. Such an act would be no more than simple justice.

All of this, however, is a matter of indifference to him. He has passed over the river and is resting under the shade of the trees in that eternal city not made with hands, that knoweth neither time, season or decay. But it is fitting for us who have enjoyed his friendship and confidence that we should ponder long and well on his useful, upright and helpful life, that we may benefit thereby and, like him, prove an elevating influence in the lives of others. We extend our heartfelt sympathy to his sorrow stricken loved ones. May he who visits the widow and the fatherless in their affliction help them to bear this heavy burden that has been cast on them. Now in this sad but beautiful season of the year when the dying leaves, russet with the touch of autumn, are seeking a resting place, God's finger touched our beloved friend and brother and he slept. Let us then lay him gently

on the bosom of Mother Earth with the sweet consciousness that he lived for a purpose, that this purpose was good and that he has not lived in vain. Men and brethren, may as much be said for us when we have gone into the beyond.

ABOU BEN ADHEM

FAVORITE POEM OF DR. ALLEE, READ BY W. C. HECK, JR.,
CALIFORNIA, MO.

Abou Ben Adhem (may his tribe increase!)
Awoke one night from a deep dream of peace,
And saw, within the moonlight in his room,
Making it rich, and like a lily in bloom,
An angel writing in a book of gold:—
Exceeding peace had made Ben Adhem bold,
And to the presence in the room he said,
"What writest thou?"—The vision rais'd its head,
And with a look made of all sweet accord,
Answer'd, "The names of those who love the Lord."
"And is mine one?" said Abou. "Nay, not so,"
Replied the angel. Abou spoke more low,
But cheerily still; and said, "I pray thee then,
Write me as one that loves his fellow-men."

The angel wrote, and vanish'd. The next night
It came again with a great wakening light,
And show'd the names whom love of God had bless'd,
And lo! Ben Adhem's name led all the rest.

RESOLUTIONS ON THE DEATH OF DR. ALLEE

At the meeting of the Fifteenth Councilor District, composed of the counties of Cass and Johnson, which met on October 12, the day Dr. Allee was buried, the following resolutions were adopted:

WHEREAS, Dr. William S. Allee, treasurer of the Missouri State Medical Association and ex-president of the same, and who has been one of the most faithful and efficient members of our state association in its work for the betterment of the medical profession of Missouri, be it

Resolved, By the members of the Fifteenth Councilor District here assembled, that we extend to the bereaved family our sincere sympathy and grieve with them in their great loss. Be it further

Resolved, That these resolutions be made a part of the record of the Society and be published in the report to THE JOURNAL OF THE MISSOURI STATE MEDICAL ASSOCIATION.

At the meeting of the Southeast Missouri Medical Association held at Cape Girardeau, October 17, Dr. George W. Vinyard of Jackson introduced the following resolutions which were adopted:

WHEREAS, Death has removed from the ranks of the medical profession of this state a most ardent and faithful laborer for the advancement and promulgation of honest medicine, in the person of Dr. W. S. Allee of Olean, Mo., who departed this life on Oct. 9, 1916, and

WHEREAS, Dr. W. S. Allee's faithful services in our state legislature in the interest of regular and rational medicine as well as his unswerving devo-

tion to organized medicine throughout the state and counties, deserve recognition by every true physician in this great state, and

WHEREAS, It is deemed meet and proper that the Southeast Missouri Medical Association, assembled in its fortieth semi-annual meeting, register its approval and high esteem of this great and good man, as well as its profound recognition of his valuable services to the profession in general throughout the length and breadth of this imperial state, and

WHEREAS, We realize that Dr. Allee has wrought a great service to humanity during his sojourn in our midst, which is an invaluable heritage to those of us left behind and should receive due evidence of our appreciation and profound respect for his memory; therefore be it

Resolved, That in the death of Dr. W. S. Allee the profession of medicine has lost a most valuable member; the older members have lost a faithful friend and adviser, and the younger members an inspiration and example; the whole people a faithful friend and servant who stood for everything that was high, noble and pure; and be it further

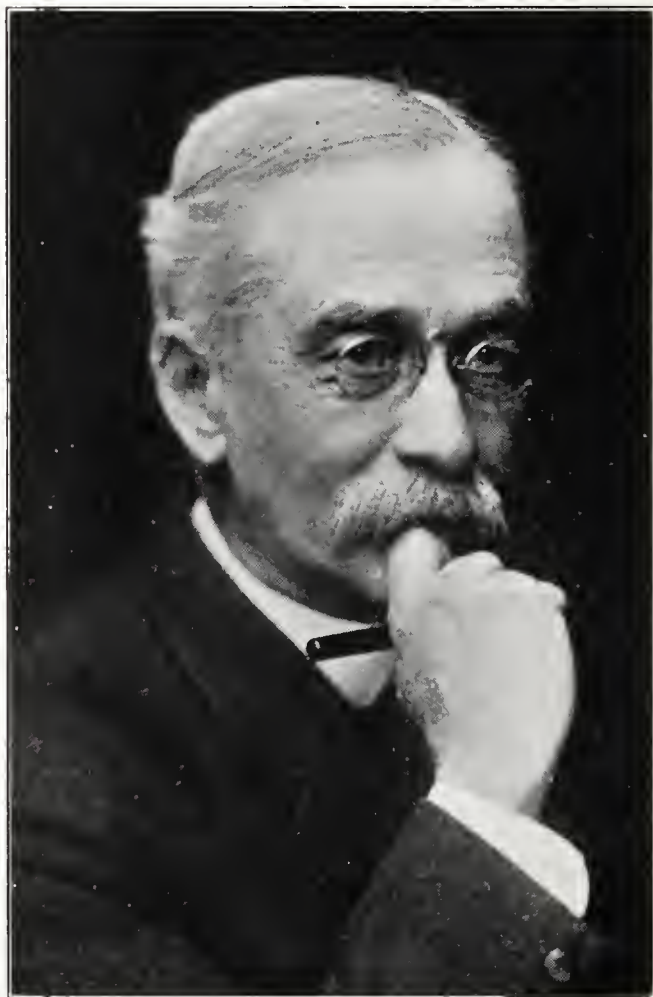
Resolved, That a copy of these resolutions be spread on our record and printed in THE JOURNAL OF THE MISSOURI STATE MEDICAL ASSOCIATION, and that a copy be transmitted to the family of our deceased brother with our heartfelt condolence.

EDWARD W. SCHAUFFLER, M.D.

The Jackson County Medical Society is called to the sad duty of mourning one of its oldest, one of its noblest, and one of its best beloved members. Dr. Edward W. Schauffler was the son of William G. Schauffler, a missionary at Constantinople. While he and his wife were sojourning in Vienna the boy was born in 1839. Returning to Constantinople his early education was acquired in his home until he was 12 years old. Outside of his home education he learned Turkish and several other oriental tongues and thus afterward became a valuable interpreter for the British government in the Crimea. Thereafter the boy served as an attache in the American embassy at Constantinople and then was sent to Williams College for his American education. Before finishing the college course he began the study of medicine and was afterward thrown on his own resources. After studying some time with a preceptor he entered the old College of Physicians and Surgeons of New York, paying his way as best he could. He was a reporter on the New York Tribune and taught German in a girls' school. At the outbreak of the Civil War he joined the recruiting army as first lieutenant in the Seventh New York Volunteers and came out as a captain. At the close of the war he finished his medical education, and came West, locating in Kansas City, which was then (1868) a town of about 25,000 people. Of the doctors who were then in the place none are now here except Dr. David R. Porter. Dr. Schauffler was public spirited, and always willing to work for the betterment

of society, but never obtrusively so. He was a member of the board of directors of the state tuberculosis sanitarium at Mount Vernon since its inception to the time of his death, which took place Oct. 29, 1916.

He was an early advocate of the construction of the County Sanitarium at Leeds. In 1869 he helped to organize the old Kansas City Medical College in which he was professor of physiology for two years after which he was professor of the practice of medicine until the school was absorbed by the Kansas State University. This same chair he also filled in the Kansas University for several years. He was a member



EDWARD W. SCHAUFFLER, M.D.

Born 1839 Died 1916

President Missouri State Medical Association, 1878-1879

of the Loyal Legion of the G. A. R., the organization of Civil War officers, a fellow of the American Medical Association, member of the Missouri Medical Association, of which he was once president, and of the Jackson County Medical Society of which he was a charter member, of whom there are now but seven left. His achievements in medical learning in a long career ranked with the highest, and his culture outside of his profession was in the higher class, being especially proficient in languages.

He was selected by the American Editor of Ziemssen's Cyclopedia of Medicines as one of its translators; and his translation of Libermester's great and classic article on typhoid fever, which appeared in the first volume in 1874, was notably accurate and most creditable. Dr. Schauffler was a Christian gentleman, a good citizen, a noble man among men. He stood high in his community. No one could stand higher. He was honor personified in his goings in and out with his professional brothers. This is the highest encomium that can be given. He will be sadly missed by his brothers in medicine and his clientele. This society now begs to express its sorrow, and extend its sympathy to the bereaved widow, Mrs. Mary Hibbard Schauffler, to his children, Dr. Robert M. Schauffler, Albert T. Schauffler and Edward R. Schauffler of Kansas City, Mo., to his daughter Mrs. Charles A. Anderson, and to his brother Rev. A. F. Schauffler, both of New York City.

The Necrologic Committee,
H. B. COLEMAN,
JOKSHAN FREYMAN,
W. H. COFFEY.

NEWS NOTES

DR. ROY LIEUALLEN of Princeton, Mo., has been appointed city physician to take the place of Dr. Laws, who resigned some time ago.

THE Southwest Missouri Medical Association held its semi-annual session at Springfield, November 9 and 10. About one hundred members attended the meeting.

DR. C. M. McCONKEY, formerly of Lathrop, Mo., and councilor for the Twelfth District for five years, has retired from practice and located on a ranch at Weskan, Wallace County, Kansas.

THE Tennessee State Medical Association is collecting a fund by voluntary subscription from the members to be used in prosecuting illegal practitioners. The fund amounted to \$390 on October 30.

DR. M. A. BLISS of St. Louis has been appointed by the mayor a member of the Committee on Misdemeanants created to investigate persons charged with minor crimes and suggest better methods of caring for them.

THE tuberculosis colony at Koch Hospital, St. Louis, the municipal institution for the care of tuberculosis cases, was opened for the reception of patients November 9. New cottages have been built to care for 102 patients of the incipient type of tuberculosis.

DR. G. P. PIPKIN of Kansas City, now serving in the Ambulance Corps of the U. S. Army stationed at Laredo, Texas, has recovered from an attack of typhus fever. At one time he was dangerously ill. Since he entered the army he has been promoted to a captaincy.

DR. L. DUNCAN BULKLEY will give a series of clinical lectures on diseases of the skin at the New York Skin and Cancer Hospital, New York City, beginning November 1. There will be one lecture each week. The lectures will be free to the members of the medical profession on presentation of their professional cards.

AT a dinner in the Muehlebach Hotel, Kansas City, on November 8, a party of philanthropic business men, physicians and women initiated a movement to raise \$175,000 to complete the new building for the Mercy Hospital. The hospital is a free institution devoted to the care of indigent sick and crippled children.

DR. D. S. BOOTH of St. Louis has assumed editorial management of the *Alienist and Neurologist*, a quarterly journal founded by the late Dr. C. H. Hughes and edited by him until his death. Dr. Booth will continue in the capacity of editor until permanent arrangements for the future publication of the journal have been completed.

DRS. J. H. AND U. S. G. HUGHES of Kansas City have closed their offices. Several indictments are pending against them for violating the antinarcotic law, but they continued to operate their offices. When the federal authorities informed them that they would continue to be arrested as long as they kept their offices open they closed their doors.

THE Otolaryngological Section of the St. Louis Medical Society has donated to the library of the society the Transactions of the American Laryngological Society, Transactions of the American Laryngological, Rhinological and Otolological Society and the Archives of Otology, — about one hundred volumes in all. The library now has a complete set of these publications.

FAILING by private investigation to secure a satisfactory candidate for the position of director of public health, the Kansas City Hospital and Health Board has resorted to advertisements in newspapers and medical journals inviting competent men to apply for the position. The director of public health is paid a salary of \$3,600 per annum and immunity from obnoxious political interference is promised.

DR. T. J. DOWNING of New London, secretary of Ralls County Medical Society, sustained severe injuries on the night of November 3 while answering a call from a patient nine miles from New London. When near the patient's home Dr. Downing started to cross a field but got off the path and in the darkness fell down an embankment. Three of his ribs were fractured and the clavicle dislocated. He was taken to Levering Hospital at Hannibal.

DR. G. WILSE ROBINSON of Kansas City was elected president and Dr. C. B. Francisco of Kansas City was elected vice-president from Missouri of the Tri-State Medical Association, composed of Missouri, Illinois and Iowa, which closed its annual meeting at Kansas City, October 28. The next meeting will be held in Iowa, the city to be selected later. A committee was appointed to meet with a committee from the Missouri Valley Medical Society to consider possibilities of merging the two associations.

CONSIDERABLE unrest is manifested in the profession in both St. Louis and Kansas City over the tendency to misuse the charity hospitals by certain classes. In St. Louis it is said the police department desires to have patrolmen injured in the service treated at the City Hospital. The *Bulletin* of the St. Louis Medical Society vigorously protests against such unfair use of the institution. In Kansas City the profession complains that persons who are amply able to pay for medical service and hospital care are being treated at the General Hospital to such an extent as to deprive poor persons of ward room.

THE National Board of Medical Examiners held its first examination in Washington, October 16-21. Ten candidates took the examination, five of whom passed and five failed. The successful candidates were: Thomas A. Johnson, Rush Medical College, 1911; Hjorleifar T. Kritjanson, Rush Medical College, University of Chicago, 1907; Harry S. Newcomer, Johns Hopkins University, 1915; Orlow C. Snyder, University of Michigan Medical School, 1915; Wm. W. Southard, Johns Hopkins University, 1916. The candidates who failed were graduates of Howard University School of Medicine, Johns Hopkins University Medical Department, Rush Medical College, and Bellevue Hospital Medical College.

Considerable interest has been aroused in medical circles by the announcement of the election of Mr. Louis R. Curtis, for 18 years superintendent and secretary of St. Luke's Hospital, Chicago, as president of the Frank S. Betz Company. Mr. Curtis is a graduate mechanical engineer with extensive medical training. He has been prominent as consulting en-

gineer, especially among hospitals, and has introduced many advanced and successful ideas in hospital construction and organization. His wide experience among hospitals and medical men and his technical training make him peculiarly well fitted for his new position. Mr. Frank S. Betz, under whose control the concern bearing his name assumed its present proportions, will continue with the company as chairman of the board of directors.

LEGISLATION has recently been enacted which will provide for approximately 300 additional medical officers in the Medical Corps of the United States Navy. The pay ranges from \$2,000 per year, with quarters or an allowance therefor, for assistant surgeons with the rank of lieutenant, to \$8,000 with allowances upon attaining the grade of medical director with the rank of rear admiral of the upper half. Applicants must be between the ages of 21 and 32 years, citizens of the United States, and must submit satisfactory evidence of preliminary and medical education. After the candidate passes the preliminary examination he attends a course of instruction at the Naval Medical School. During this course he receives full pay and allowances of his rank, and at the end of the course he takes a final examination. Two of these courses begin each year. The examinations are held in several of the coast cities both on the east coast and the west coast, and also at Chicago. Literature describing the navy as a special field for medical work, and circulars of information may be obtained by addressing the Surgeon General, U. S. Navy, Navy Department, Washington, D. C.

THE recent indictment by the Federal Grand Jury in Newark, N. J., of "Dr." Jean F. Strandgaard, of Toronto, Canada, and George F. Hardacre, of Toronto, led to the discovery that these men had in their possession a large quantity of spurious neosalvarsan. Upon analysis by the government experts the contents proved to be starch in the majority of the ampules and stained table salt in the others.

A further investigation showed that Strandgaard had 15,000 ampules made in Jersey City, which were filled by the glass blower with either starch or salt. Drug stores all over the Middle West and the East were approached by women trying to sell the frauds made for Strandgaard. These spurious products were put up in imitation of either the German or English package, in square pasteboard cartons. They did not appear in round aluminum packages, like the American package. They are very cleverly executed, and their outside appearance led even experienced physicians to be deceived.

Medical men who have any information about the distribution or sale of these frauds

should communicate with Chief Inspector E. R. Norwood, U. S. Customs House, New York, at their earliest opportunity, or, in case of emergency, with the local police authorities.

The Alumni Association of the Washington University Medical School held its second annual Clinical Week at the University Building in St. Louis from October 2 to 5, 1916. The attendance was unusually large and the very excellent program furnished was greatly enjoyed.

In the past year the Alumni Association has succeeded in establishing a Scholarship Fund by which it will be possible to send one or two worthy men through the Washington University Medical School each year.

Besides the very good clinical program which was furnished, most of the Alumni greatly enjoyed the Smoker which was given at the Liederkrantz Club on Wednesday, October 4. Dr. M. B. Clopton acted as toast-master. Among those who spoke were Dr. Philip Schafer, dean of the Washington University Medical School, Dr. F. O. Schwartz, president of the Washington University Alumni Association, and Dr. Henry Schwarz.

The officers for 1916 to 1917 are: F. O. Schwartz, president; L. B. Alford, first vice-president; Wm. F. Hardy, second vice-president; C. A. Stone, secretary, and J. A. Rossen, treasurer.

ON November 20 and 21, 1916, the American Social Hygiene Association held its annual meeting in St. Louis. Many of the most prominent leaders in social hygiene work were present and addressed public meetings upon various phases of social hygiene. Among the notable leaders who participated in the program were Dr. Abram W. Harris, president of the American Social Hygiene Association; Mr. Jerome D. Greene of the Rockefeller Foundation; Dr. William F. Snow, general secretary of the American Social Hygiene Association; Dr. J. N. Hurty, commissioner of health, Indiana; Dr. T. W. Galloway of Beloit College; Dr. W. A. Evans of the *Chicago Tribune*; Dr. William A. Pusey of the School of Medicine of the University of Illinois; Attorney-General George Cosson of Iowa, and numerous other of the most prominent leaders in the social hygiene field.

Representatives from various parts of Missouri were present and it is expected that a state-wide society for educational propaganda in sex hygiene and law enforcement will be organized. As the prevention and control of venereal disease and the protection of the innocent from its effects is one of the most important needs of our day, every reputable physician throughout the state should give the movement his hearty support.

THE American College of Surgeons closed its third annual session at Philadelphia, October 27. From a list of 2,500 applicants for Fellowship 200 have been admitted during the past year. The policy of the regents is "to admit only those surgeons who beyond all reasonable doubt are honest and competent." In each state there is a state credentials committee of from five to nine members elected by the Fellows in that state. Applicants for Fellowship are first submitted to the state committee which passes on the eligibility of the candidate and reports to the central committee at headquarters in Chicago. When the applicant is approved by the state committee and the central committee he is then privileged to submit 100 case histories as further evidence of his qualifications if there are abundant reasons to believe that he is qualified. Of the 200 admitted at Philadelphia about one half submitted histories while about 60 per cent. of the total who submitted case histories failed of final approval. Concerning fee splitting the report of Director Dr. John G. Bowman says: "This is a subject which I should like to avoid. It is a disgrace that there is need even to mention it. But there is need. Any one who divides fees is a liar and a thief. If milder terms would fit the case, I would use them. They will not fit. This evil is the basis of unnecessary operating and of incompetent operating. The College has plans now to fight it beyond anything yet attempted. But we cannot go into that subject now.

"The Board of Regents has just held a meeting. It has just considered the names of seven Fellows of the College about whom there is some evidence of the practice of division of fees. After full consideration, the board dropped three Fellows from our list. Two of these are suspended pending further information. The board voted, further, to make the names of men expelled from Fellowship. (The name of a Fellow was read who was expelled for 'reasons derogatory to the dignity of the College and inconsistent with its purposes')."

Dr. George W. Crile was elected president of the College and chairman of the Board of Trustees, Dr. Rudolph Matas was elected first vice-president, Dr. Robert G. LeConte second vice-president. Dr. Franklin H. Martin reelected secretary.

MEMBERSHIP CHANGES, NOVEMBER

NEW MEMBERS

Harry Eugene Bundy, St. Louis.
Eugene P. Cockrell, Webster Groves.
Sherman B. Hibbard, Kansas City.
Franklin E. Jacobi, St. Louis.
George L. Koch, Kansas City.
Louis W. Schreiber, St. Louis.
Howard M. Williamson, St. Louis.

CHANGE OF ADDRESSES

Pearl J. Anderson, St. Louis to Hemet, Calif.
H. E. Baker, Springfield to Terre Haute, Ind.

John P. Beeson, Southwest City, Mo., to Fort Thomas, Ky.

George W. Belshe, Trenton, Mo., to Laredo, Texas.

Orville H. Brown, St. Louis, to Phoenix, Ariz.

J. F. Devin, Shelbyville, Mo., to Seattle, Wash.

J. E. Dewey, Kansas City to Springfield.

Gersen Feigenbaum, St. Louis to San Antonio, Texas.

Wm. H. Freudenstein, 306 S. Ewing Ave. to Manchester Bk. Bldg., St. Louis.

E. E. Higdon, Olney, Colo., to Allenville, Mo.

Vincent L. Jones, St. Louis to Omaha, Neb.

F. H. Klieforth, St. Louis to San Antonio, Texas.

C. M. McConkey, Lathrop, Mo., to Weskan, Wallace County, Kan.

Chas. W. Metz, Winston, Mo., to Denver, Colo.

James F. McFadden, Boston, Mass., to Foxboro, Mass.

Stephen T. Ragan, Kansas City to Moberly.

Wm. Roney, St. Joseph, Mo., to Marysville, Kan.

David E. Smith, Cape Girardeau to Bonne Terre.

E. P. Stepp, Morehouse to Parma.

George R. Thompson, State Hospital No. 2 to 3233 Lafayette St., St. Joseph.

TRANSFERRED

Finis L. Andersson, Hagerman, N. M., to New Mexico Society.

Pearl J. Anderson, Hemet, Calif., to California Society.

Louis P. Habig, Lebanon, Ill., to Illinois Society.

F. H. Klieforth, San Antonio, Texas, to Texas Society.

LeRoy Sante, Ellendale, N. D., to Dakota Society.

Ed. F. Stadtherr, San Jose, Calif., to California Society.

RESIGNED

John P. Beeson, Fort Thomas, Ky.

W. T. Elam, St. Joseph.

DROPPED

J. F. Devin, Shelbyville.

DECEASED

E. W. Schauffler, Kansas City.

CORRESPONDENCE

IS NOT A FEE SPLITTER

To the Editor:—I noticed by the editorial in your September number, that I am one of several who have been driven out of the ranks of the medical organization as represented by the American Medical Association, and, further, I am branded as a fee splitter, rebater, etc. Inasmuch as the stigma has been placed upon me through your journal, I now ask you to allow me the privilege of answering through this same medium.

I have been professionally connected with "The Oxford Retreat" for the past twenty-two years. This sanitarium has been supported by the leading men in the medical profession, and I am proud to enumerate as professional friends many prominent physicians who have indorsed "The Retreat," and in fact who have permitted their names on my reference list. I am perfectly willing to stand upon my past record, and I must insist upon not being called or classed with fee splitters or rebaters. The publication of my position is due the members of the medical profession who have given me their support. In justice to myself and the institution I represent, I wish to say that I have been an active member in the American Medical Association for the past twenty years, also a member of the Ohio State and Butler County Medical Societies; I also enjoy the privilege of being a member of the American Medico-Psychological Association, the Cincinnati Academy of Medicine, and several other local medical organizations. I have been a member in good standing and have always considered myself ethical in every way. It seems rather unfair to brand and condemn a man without even a hearing. In my behalf allow me to briefly state that the first knowledge I had of the United States Medical Society was June 14, 1916, when I received the following communication, the original of which is now in the hands of the Secretary of the American Medical Association, which reads as follows:

Dr. R. Harvey Cook, Oxford, Ohio.

My dear Doctor: I would like very much to have your name on the program of our society which will meet in this city the first week of October. If you can and will prepare a paper for that meeting, send me the title at once for the preliminary program. If you find—later—that you cannot attend, the secretary can read it for you. The main thing is to have the contribution to the program. Also we want you to become a member: application blank enclosed. Hoping for an immediate and favorable reply, I am,

Cordially yours,

(Signed) EMORY LANPHEAR.

You can see how different this invitation is from the form printed in the September number of your journal. I consented to write a paper

and undoubtedly would have done so had not my attention been called to the editorial appearing in your September number. There is quite a difference in the communication asking me for a paper, and the letter published in your September issue. I hereby ask you to publish the letter such as I received asking for a paper, and also the letter appearing in your September number. My request is made for the reason that any reputable physician would have been glad to read a paper in answer to the letter I received, whereas an acceptance to the letter you printed would as you say stamp the individual as willing to overthrow the state and national organization.

Trusting my position has been made clear, I remain,

Very truly yours,

R. HARVEY COOK.

MISCELLANY

RESIGNS FROM HEALTH BOARD

F. C. Sharon, vice president of the board of health, has tendered his resignation to the mayor. The resignation has not been accepted. Mr. Sharon will meet with the board this afternoon.

Ostensibly Mr. Sharon's duties as president of the real estate board and his realty business caused his resignation. Actually, it is well known to close observers of the troubles of the board of health, that conditions had become intolerable to him.

George H. Tefft, president of the board and in reality "the board," has differed with Mr. Sharon, the other Republican member, on a great many questions, but Mr. Sharon has hesitated to break with the president, trying again and again to accomplish the things he was working for without open friction.

Sharon has always advised against making political appointments. He has advocated the dismissal of all inefficient employees and has wanted to go outside the city when necessary to get efficient and technically trained men, regardless of what the local Republican organization might recommend.

Although Mr. Sharon refused to discuss the matter today, it is known he has given up hopes of accomplishing any of the reforms he has worked for.

In their support of Mr. Sharon, members of the Consumers' League and the Council of Clubs have appealed to Mayor Edwards.

The mayor has sided with Mr. Tefft, and has been quoted by the women as saying that "Tefft is worth \$10,000 a year to the city."—*Kansas City Star*.

REFERENDUM ON MEDICAL PRACTICE ACT

Colorado adopted the new medical practice act at the last meeting of the legislature and the bill was signed by the governor. It was acceptable to the medical profession but evidently did not suit some of the cults. At any rate the bill is to be referred to the people by petition "made up of many fraudulent names." In *Colorado Medicine* for October the president of the Colorado State Medical Society issued an

appeal to the members to work for the adoption of the bill and gives the following reasons in favor of its adoption:

First: Because it is a better medical act than any we have ever had.

Second: Because it controls every branch of the healing art, including osteopaths, chiropractors, midwives and chiropodists (Christian Scientists being exempt).

Third: Because the grounds on which any person may hold himself out to the public as engaged in the healing art are based on both educational and moral qualifications—both of which are to be carefully investigated by the Board of Examiners.

Fourth: Because the bill will in the future keep out the unscrupulous and uneducated "faker" who now may style himself "doctor" of almost anything, and begins his "practice" without examination or preparation.

Fifth: Because only one board of licensure will be necessary.

We believe that if your medical society will appoint an influential committee to call on the editors of your county papers and ask them to advise the people to vote for the bill in November, the bill will be approved by the people.

THE STATUS OF OPTOMETRY

We have received several requests for a clear statement of the status of optometry under the Platt-Ellis law.

The State Medical Board holds that the Platt-Ellis law is broad enough to cover optometrists. After this statute became effective, the board in response to a demand from a number of optometrists made provisions for licensing them under its exemption waivers. A large number of optometrists (perhaps half of those practicing) filed these applications.

Under the Platt-Ellis law the licensing of optometrists would be placed under the State Medical Board, and adequate provision is made to demand at least a fair preliminary education of those who enter this practice in the future. It might be explained that the better grade of optometrists favor this measure.

However, those who seek a separate licensing board of optometrists, entirely distinct from the State Medical Board, control the State Optometry Association, and several months ago that Association filed proceedings in the Common Pleas Court of Franklin County asking that the State Medical Board be restrained from prosecuting optometrists for violating the Medical Practice Act, and that it also be restrained from registering optometrists under the Platt-Ellis law. As is usual in such cases, the court granted a temporary restraining order, pending the final disposition of the case by the judge.

This status has continued (owing to the clogged condition of the court docket) for several months, but will likely come to trial within a short time, possibly this month.

The State Medical Board is preparing to resist the injunction, and will be represented in the proceedings by Attorney General Edward C. Turner. Hon. A. O. Dickey, Special Counsel in his office, has direct charge of the case.

The contention of the optometrists is that their work is not the practice of medicine, in that they do not diagnose the pathological condition of the eye but merely measure the defect by purely mechanical means.

The broad questions which the court will have to pass on are:

1. Is it customary for the optometrist to examine and diagnose the condition of the eye before fitting glasses?

2. Is it necessary for the optometrist to recognize pathological conditions of the eye before fitting glasses?

If the court is convinced, by the evidence, that a diagnosis of the pathological condition is necessary, he will dissolve the injunction, and the State Medical Board may proceed with the licensing of optometrists under the Platt-Ellis law, and the prosecution of those who refuse to take out licenses.

If the court, on the other hand, rules that the practice of optometry is merely mechanical, and not a branch of the practice of medicine, the Medical Board will of course be restrained from either licensing or prosecuting optometrists. If this decision should be reached it will mean redoubled efforts by the organized optometrists to secure a separate optometry law in the next legislature.

Optometry journals announce that the entire resources of the organized optometry interests will be directed this year to securing separate boards in Ohio, Pennsylvania, Missouri and Texas—the four large states which have successfully resisted to date these raids on systems of honest medical licensure.—*The Ohio State Medical Journal*.

MORITURI SALUTAMUS

Unless the unexpected, by which men of science lay little store, happens, there will be but three more issues of the *Lancet-Clinic* before it dies. Suspension of publication, which has been under debate for some months past, was decided on and accepted unanimously by the stockholders of the Lancet-Clinic Publishing Company, at a recent meeting. This is the official and legal culmination of a decision which has gradually grown up from editorial and business managers through the board of directors to the stockholders themselves.

After several decades of recurring failures and successes in the fields of medical literature, the counting room and the editorial office, the *Lancet-Clinic* goes out. Its career has been typical of that of many other medical journals. Journals, like societies, spring from a common need. There follows, then, organization. Organization, in turn, is followed by disorganization and the cycle may be repeated.

It is needless to point out the several factors which have made the late reorganization of the *Lancet-Clinic* determine on its own death. Suffice it to say that no one cause led to the result. Certain paragraphs from a letter by one of the directors to the stockholders' meeting state most of the reasons. We quote as follows:

"In April, 1914, you asked me to take stock in the Lancet-Clinic Publishing Company, and to accept a place on your board of directors. My interest in medical science for the past thirty years prompted me to put \$1,000 into the *Lancet-Clinic*, and to look into its management. I soon found that you were losing money.

"A system of bookkeeping was installed whereby monthly statements showed the earnings or losses in each department.

"After my return from the South, last April, an examination indicated a shrinkage in our assets, making it necessary to take immediate steps to pay bills past due or quit business. Your board of directors met and agreed to lend the company \$3,500. The books showed we had \$7,000 due us, which included

subscriptions to the journal and for job printing, and for advertising. Accounts had been carried as good, which were uncollectible to the extent that the \$7,000 dwindled to about \$1,100. Of the several thousand subscribers to the *Lancet-Clinic* on the books, half were behind in payment from two to six years; 144 letters sent to those in arrears the longest brought two replies and one remittance; since that time about \$75 have been collected from these accounts.

"When we adopted the ruling of the Council on Pharmacy of the American Medical Association, our income from advertising was reduced more than one half. A careful estimate of the cost of printing and editing the *Lancet-Clinic*, and the income from subscriptions and advertising, shows we are now losing at the rate of about \$2,500 a year.

"Every effort was made to secure a larger circulation for the journal. The response to thousands of copies sent to the profession in this and adjoining states for a period of weeks was negligible.

"With the American Medical Association Journal reaching 60,000 readers, and the State Journal 4,000, and both of these being received by members of these associations, it is plain to see that the *Lancet-Clinic* has served its day and generation, and is no longer called for by the profession. To continue the *Lancet-Clinic* means a continual financial loss, with no good accomplished, which the profession recognizes, by the financial sacrifice of the forty odd physicians who have for several years backed the *Lancet-Clinic* without hope of financial gain.

"To liquidate at present, some 12 to 15 per cent. can be obtained for the stockholders. To continue the printing business of the *Lancet-Clinic* would require some \$5,000 to be advanced by the stockholders, and inasmuch as the medical profession of Cincinnati, which has financed the *Lancet-Clinic*, did not go into the Lancet-Clinic Publishing Company as a money-making proposition, it would seem wise for them to liquidate and discontinue the business."

Summed up, then, financial embarrassment has sealed the fate of the *Lancet-Clinic*. The sources of this financial embarrassment reside in the high cost of production, the poverty incident to being clean, and the unwillingness on the part of enough of the medical profession to make good the difference. Sermons might be preached on any of these various items, but the facts should prove sufficient.—*The Lancet-Clinic*.

ARE YOU "TUBERCULOUS" OR "TUBERCULAR?"

Distinction between the words "tubercular," "tuberculous" and "tuberculosis" when used as adjectives are pointed out by the National Association for the Study and Prevention of Tuberculosis in a recent bulletin issued.

Of the various words used to designate some phase or other of the tuberculosis movement, says the bulletin, the word "tubercular" is most frequently misapplied. The term "tubercular" may be used correctly only to describe conditions resembling tubercles, but not necessarily caused by the tubercle bacillus, the germ of tuberculosis.

Thus, if one says a certain individual is tubercular, he really indicates that the person has a disease process manifesting itself by tubercles or little lumps, but it is not necessarily tuberculosis. To say that the person has tuberculosis, the adjective "tuberculous" is the correct word. It refers directly to diseased conditions caused by the tubercle bacillus. Thus, when an institution for tuberculosis recently labeled itself

as a "tubercular sanatorium," it not only indicated that the sanatorium was sick, but that it was sick with something resembling tuberculosis. The adjective "tubercular" should be used very infrequently.

The word "tuberculosis," the bulletin holds, may be used correctly as an adjective, modifying sanatorium, hospital, nurse, etc. This is in accord with the common usage of such phrases as "typhoid hospital," "smallpox infirmary," etc. "Tuberculosis" may also be used, as it commonly is, as a noun, but the use of "tuberculous" or "tubercular" as nouns without a modifying definite article, "the," is extremely doubtful.

Since the anti-tuberculosis campaign is developing with such great rapidity The National Association for the Study and Prevention of Tuberculosis is urging all newspapers and other publications, as well as its own affiliated associations to make proper use of the words "tuberculosis," "tuberculous" and "tubercular."—*The West Virginia Medical Journal*.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL, 1916

(UNDER THIS HEAD WE LIST THE SOCIETIES WHICH HAVE PAID THE STATE ASSESSMENT FOR ALL THEIR MEMBERS)

- Webster County Medical Society, Dec. 15, 1915.
 Benton County Medical Society, Dec. 16, 1915.
 Cape Girardeau County Medical Society, Dec. 19, 1915.
 Schuyler County Medical Society, Dec. 22, 1915.
 Atchison County Medical Society, Dec. 27, 1915.
 Clark County Medical Society, Jan. 1, 1916.
 Madison County Medical Society, Jan. 10, 1916.
 Clinton County Medical Society, Jan. 11, 1916.
 Sullivan County Medical Society, Jan. 17, 1916.
 Phelps County Medical Society, Jan. 17, 1916.
 Camden County Medical Society, Jan. 18, 1916.
 Dent County Medical Society, Jan. 31, 1916.
 Barton County Medical Society, Feb. 3, 1916.
 Moniteau County Medical Society, Feb. 7, 1916.
 Henry County Medical Society, Feb. 21, 1916.
 Putnam County Medical Society, Feb. 24, 1916.
 Pulaski County Medical Society, Feb. 28, 1916.
 Vernon County Medical Society, Mar. 3, 1916.
 Ste. Genevieve County Medical Society, Mar. 15, 1916.
 Cooper County Medical Society, Mar. 30, 1916.
 Montgomery County Medical Society, April 4, 1916.
 Ralls County Medical Society, April 6, 1916.
 Livingston County Medical Society, April 12, 1916.
 Macon County Medical Society, April 14, 1916.
 Dekalb County Medical Society, April 17, 1916.
 Wright County Medical Society, April 25, 1916.
 Carter-Shannon County Medical Society, April 26, 1916.
 Greene County Medical Society, April 28, 1916.
 Iron County Medical Society, April 28, 1916.
 Platte County Medical Society, April 28, 1916.
 Grundy County Medical Society, May 3, 1916.
 Adair County Medical Society, May 5, 1916.
 Lafayette County Medical Society, May 5, 1916.
 Cass County Medical Society, May 15, 1916.
 Johnson County Medical Society, May 20, 1916.
 Ray County Medical Society, May 29, 1916.
 Cole County Medical Society, Oct. 28, 1916.
 Carroll County Medical Society, Nov. 16, 1916.

ST. LOUIS MEDICAL SOCIETY

Oct. 21, 1916

TECHNIC OF CHOLECYSTECTOMY.—By DR. MAJOR G. SEELIG, St. Louis.

This paper represents an argument for performing the operation of cholecystectomy by beginning at the fundus of the gallbladder, stripping this organ away from the liver bed, identifying the cystic artery and ligating it, identifying the cystic duct throughout its course before ligating it, and then, after the gallbladder is removed, instituting a careful probing of the various ducts to establish the presence of stones or constrictions.

This type of procedure varies from the present-day typical cholecystectomy in that the gallbladder is removed from above downward, instead of by ligating the cystic duct first and removing the gallbladder from below upward. While in no sense advocating this method as an exclusive operative procedure, I feel that it is the method of choice, particularly in difficult cases, because it conforms to definite surgical principles.

In the first place it enables one to reach the cystic artery by direct, unobscured approach, and to trace this vessel downward so that it can with safety be ligated at its source. In performing this step there is always some parenchymatous oozing from the raw liver bed, but this bleeding is easily controlled by a small gauze pack.

In the second place, this type of operation permits one to pedicle the gallbladder so that the cystic duct is readily identified and, once identified, easily traced from origin to ending. By the so-called standard method the duct must be picked up in the gastro-hepatic ligament. This is a treacherous procedure on account of obscuring hemorrhage and also on account of anatomic variations in the course of the duct.

In the third place, when done from above downward one may readily amputate the cystic duct low down and thus prepare the way for probing the cystic stump, hepatic and common ducts.

DISCUSSION

DR. FRANCIS REDER: Dr. Seelig has presented this much threshed-over subject in a very convincing manner, so much so that one who has had no experience in the removal of the gallbladder might readily accept his data and I dare say may meet with splendid success. But we have to be practical in these matters. If I can dislocate the liver satisfactorily so that I have the biliary structures well before me, I am going to remove this gallbladder from below up; but if I cannot dislocate the liver satisfactorily and have to work in the depths of the wound, near the spinal column, I am going to choose the easier and safer method and remove the gallbladder from above down.

It is a surgical fact that the great danger in cholecystectomy is hemorrhage. If you are satisfied that you have your cystic artery securely clamped, a good deal of the danger of the operation is removed. The cystic artery is a rather short, heavy artery and its pulsations can be readily felt through the peritoneal fold. On account of inflammatory conditions at the neck of the gallbladder the walls of this vessel may become thickened, making it quite a factor during operation, for if this artery is not properly caught and should bleed, enough blood would escape to continually flood the operative field. The shortness of the artery causes the cystic duct to become tortuous and the vessel ramifies very liberally on the gallbladder. In seventy-five out of 100 cases one is supposed to be able to ligate the cystic artery without including the cystic duct, but Dr. Seelig says he usually

clamps duct and artery together. I think most surgeons do that, although they may demonstrate before the operation that they are going to ligate the artery separately.

Some surgeons claim that it is easier to remove the gallbladder from below up than it is from above down. I have removed several, and must say that a great deal depends on the physique of the patient and on conditions of the gallbladder and its surroundings. Simply because the lymphatics and blood vessels are more numerous near the fundus does not make it more difficult to remove the viscus from above down; nor because the lymphatics near the neck are fewer and there is only one vessel trunk to contend with is it easier to remove the gallbladder from below up. The whole procedure rests with the skill of the operator and the conditions found during the operation plus mature surgical judgment.

DR. HUDSON TALBOTT: All things being equal, I prefer the operation from below upward. My reason in particular is the ability to use the gallbladder as a tractor to assist in maintaining the rotated position of the liver, especially after the duct has been severed. After removing the bladder from above downward you lose the use of the gallbladder as a tractor. Using the bladder as a tractor, one finds it quite as easy to get the cystic duct prior to mobilization of the gallbladder as afterward, with the added use of the gallbladder as a tractor in going from below upward.

As to the difficulty of ligating the cystic duct, including the hepatic, I have not seen that done and I cannot quite imagine its being done. It seems to me that no one would clamp a duct until he was sure it was the cystic duct. If I had to loosen the gallbladder from below up before I clamped it, I would certainly loosen the gallbladder sufficiently to trace it up or down until I was sure that it was the cystic duct alone.

Probing of the duct is perhaps essential, but it has not occurred to me that it was. With the finger in the foramen of Winslow and palpating carefully from the duodenum up to the hepatic duct, you may feel assured of the patency of that organ. In probing I presume that Dr. Seelig may do a little differently than his picture shows and probe the hepatic end, then probe in the duodenum. But I have found that the use of the gallbladder removed from the liver in almost its entire length, then used as a tractor while closing the wound below, was very helpful.

I want to speak of a method which is the device of one of our men, that is to leave a sufficient amount of the serous covering of the gallbladder attached to the liver so that it can be brought over the drainage tube, the drainage tube occupying the position formerly occupied by the gallbladder. In that way no raw surface is left open in the abdominal cavity.

DR. WILLIAM T. COUGHLIN, St. Louis: There are cases in which work is so easy that it makes little difference which method is used, and I think Dr. Seelig had in mind only the cases that give trouble. The only time that I have ever had trouble with gallbladder surgery was before 1908, up to which time I did that work on dogs; the gallbladder surgery of the dog, as you all know, is a mighty easy thing and works out just according to the pictures in the books, which "make the thing that is not as the thing that is."

In the human I have removed the gallbladder in both ways, from the fundus toward the cystic duct and from the cystic duct toward the fundus, and the only really serious trouble that I have had so far was a case in which I removed it from the fundus toward the cystic duct. In this case the right hepatic duct and the cystic duct had come off by a common stem from the main duct and at least a portion of the

right duct was sacrificed. Nevertheless, I believe the route from the fundus down to cystic duct is the one of choice, notwithstanding the fact that there is tremendous bleeding if you cut a large branch of the cystic artery or the cystic artery itself.

I clamp the artery and the ducts separately if I can, and if I can not I do the best I can and clamp or tie them together. Then after I finish I peritonealize if I can; if I cannot, I do not. I think gallbladder surgery can be the most difficult surgery encountered in the abdomen.

DR. JOHN C. MORFIT: The facts and illustrations Dr. Seelig has brought out seem to be confirmed by the experience of operators. There must be those various anomalies in a considerable proportion of cases or we would not have the perplexing complications that we encounter when we attack this region.

Dr. Seelig has emphasized the importance of the gallbladder as a landmark in the technic of the operation. I think it makes practically very little difference whether you remove it from below or from above, whether you use an upper cut or an under cut. I like to find the gallbladder first, then the foramen of Winslow, and palpate; then if there is considerable difficulty in identifying the structures, to explore by a longitudinal incision into the common or even the hepatic duct, then explore up and below or occasionally incise the duodenum itself and probe up through the ampulla of Vater.

DR. SEELIG, closing: I very deliberately made the preliminary statement in my opening paragraph that this paper was not an attempt to proselyte. I think I am more than willing to concede the alternate routes of removal, from above downward or from below upward. Now the type of liver to which Dr. Reder refers and which Moynihan so beautifully pictures in his book looks very well in a book, but only in the rarest instances do we see this type of liver in actual practice.

The way the subject appealed me was that we should develop certain definite principles; we must as far as we can, do things in certain definite ways. With hands that are more or less inexpert in gallbladder surgery, I have been obliged to cultivate the precaution to do particular things in that particular way which meets the particular purposes of the man who is inexpert, and I have had very much less trouble in identifying my structures by exposing them anatomically. This is probably as good a time as any to say that anatomically one cannot dissect the cystic artery from the gastrohepatic omentum outward with near as much comfort as by identifying it at its small beginning and tracing it down to its origin. But as for championing the cause of any one method, I have no such intent.

I am deeply indebted for the criticism which was mostly destructive, because we learn most from just such discussions.

I might add that I have gone to various operators and frankly admitted a woeful ignorance regarding the anatomy of the structures in the gallbladder region and asked no less than four that I can recall now if they would allow me to bother them during the operation to the extent that I might know when they arrived at the cystic and hepatic ducts, and I always received the most cordial assent. Then there would come a stage of the operation when the operator would say, "I am going to ligate the cystic"; and I would say, "But how do you know it is the cystic duct?" The answer in four distinct instances was, "How the devil can it be anything else?" And that is how the cystic, in a large number of instances, is ligated. I know that to be a fact, and I have ligated it myself that way and cut the hepatic.

For the great comfort and solace of Dr. Talbott, it affords me pleasure to tell him that from my experience, in spite of the fact that he does not see

how the hepatic could be injured, all he has to do in order to gain a more complete understanding of this accident is to perform a few more gallbladder operations. There is no other way to find out these things. When the gallbladder is out and you notice that there is about a yard and a half of hepatic duct attached to it, there is a good deal of opportunity for realizing that the hepatic has been injured. As I say in my paper, the thing is for each man to take a personal survey of his work and seek for what will help him most. If he is not made of the kind of timber that will take the personal pains to destructively criticize his own work, I do not think he is an aspirant for the characterization of the real surgeon.

I find gallbladder surgery extraordinarily difficult, not when it is easy, of course not; but when it is hard it is so extraordinarily hard that one is constantly on guard while doing it. The plea in this paper is not so much for a method as for the rational development of principles.

I was very much gratified recently by getting a report from one of our colleagues here who had been in Boston and had had a conversation with a man who in his opinion is one of the ranking surgeons of Boston. This particular gentleman had been in charge of the gallbladder surgery exclusively at the Massachusetts General Hospital and when questioned by the St. Louis man as to what he got out of his two years of exclusive gallbladder work, he said: "The main thing that I have gotten out of it is the fact that this removal of the gallbladder from below upward is all bunk; it has caused me endless trouble and I seem to have had a comparatively easy time since I have been using the other method."

In closing let me say again that as to relegating the other operation into the limbo of disuse, I do not mean that at all. If I attacked a gallbladder and the cystic duct came clearly into view, and I was sure that it was the cystic duct, I would divide it; but until I am sure I am going to take the precaution of preserving my patient so intact that he will not seek the services of Dr. Reder for a secondary gallbladder operation, an experience which, up to the present time, has not been unknown in my own individual practice.

Meeting of the General Society, Oct. 21, 1916

The meeting convened at 8:35 p. m., Dr. L. C. Boisliniere presiding.

The scientific program consisted of the following:

Dr. Willis Young exhibited a specimen of Ruptured Kidney and Gall Stone Obstructing Ileum.

Dr. Martin F. Engman read a paper on the "Intravenous Injection of Foreign Proteins in Diseases of the Skin," illustrated with lantern slides. Discussion by Dr. William H. Mook; Dr. Engman closing.

Dr. Adrien S. Bleyer read a paper entitled, "Use of Immune Serum in Whooping Cough."

Dr. Major G. Seelig read a paper giving the "Technic of Cholecystectomy," illustrated with lantern slides. Discussion by Drs. Francis Reder, Hudson Talbott, William Coughlin and John C. Morfit, Dr. Seelig closing.

Attendance 176.

Meeting of Oct. 28, 1916

The meeting convened at 8:40 p. m., Dr. L. C. Boisliniere presiding.

Dr. Martin F. Engman introduced Mr. W. M. Danner, secretary to the International Mission to Lepers, who addressed the Society on "The Present Status of the Leper Question Throughout the World," illustrated with many photographs. Discussion by Drs. Joseph Grindon and Michael J. Dwyer, Mr. Danner closing.

Dr. Albert Taussig introduced Dr. F. M. Pottenger of Monrovia, Calif., an honorary member of our Society, who spoke on the "Relation of Visceral Neurology to Symptomatology of Infectious Diseases." Discussion by Drs. Albert E. Taussig, Charles H. Neilson, Martin F. Engman, R. Walter Mills and Julius Bachrach of Chicago, Dr. Pottenger closing.

Attendance 204.

Meeting of Nov. 4, 1916

The meeting convened at 8:45 p. m., Dr. L. C. Boisliniere presiding. The scientific program consisted of a Symposium on Intestinal Stasis.

Part I.—(1) Anatomy, Dr. A. G. Pohlmann; (2) Roentgen ray, Dr. Edwin C. Ernst; (3) diagnosis, Dr. William Engelbach; (4) neurology, Dr. Moses W. Hoge.

On motion the discussion was deferred until the completion of the symposium on next Saturday evening.

Dr. Funkhouser read the list of receipts and expenditures for the month of October.

Dr. Boisliniere read a letter from Dr. C. H. Shutt, hospital commissioner, inviting the Society to visit the incipient tuberculosis colony at Koch Hospital on Thursday, November 9.

The president read another letter from Dr. Shutt setting forth the requirements for admission of patients to Isolation Hospital.

Letters from Drs. G. H. Raithel, Willis Young and Fred W. Bailey, stating they were not candidates for office as indicated by sample ballots mailed to the members, were read.

An invitation to attend the Tenth Annual Meeting of the Southern Medical Association to be held at Atlanta, Ga., November 13-16, was read.

Attendance 178.

Applicants for Membership

Any member of the Society who knows a good or sufficient reason why any one of the following applicants is not eligible for membership in our Society is requested to communicate at once with the Membership Committee.

Robert H. Lillemann, 3132 Cherokee Street. Sponsors: J. H. Amerland, R. H. Fuhrmann.

Emil E. Hein, City Hospital. Sponsors: F. C. E. Kuhlmann, J. A. Pringle.

Edward X. Link, St. Anthony's Hospital. Sponsors: Albert H. Hamel, Edmond Bonnot.

Martin F. Kouri, 500 Carleton Building. Sponsors: Julius H. Gross, J. Harrison Humphrey.

Linus M. Ryan, 300 Wall Building. Sponsors: C. F. Pfingsten, E. F. McCarthy.

Harry Eugene Bundy, Barnes Hospital. Sponsors: G. Canby-Robinson, John S. Young.

Meeting of the General Society, Nov. 11, 1916

The meeting convened at 8:40 p. m., Dr. L. C. Boisliniere presiding. The minutes of November 4 were read and approved.

The scientific program consisted of the following: Symposium on Intestinal Stasis, Part II: Drugs, Dr. Edward P. Buddy; Diet, Dr. Charles H. Neilson; Surgery, Dr. Francis Reder; Use of Sigmoidoscope, Dr. Horace W. Soper; Physical Therapy (by invitation), Dr. F. H. Ewerhardt.

Discussion opened by Drs. William H. Stauffer, Louis H. Behrens, John D. Hayward, Rollin H. Barnes; Drs. Augustus G. Pohlmann, Edwin C. Ernst and Francis Reder closing.

The secretary read the result of the ballots for nomination of officers as follows:

President: Hamel, Albert H., 238; Stewart, James, 116; Shutt, Cleveland, 93.

First Vice President: Bliss, Malcolm A., 160; Moore, Harry M., 134; Amyx, Robert, 66.

Second Vice President: Shattinger, Charles F., 92; Kerwin, William, 77; Powell, Ignatius, 54.

Secretary: Seabold, J. Albert, 271; Gundlach, Arthur, 109; Woolsey, Ross A., 63.

Councilors: Gayler, Wenzel C., 159; Rehfeldt, Charles S., 148; Funkhouser, Robert M., 146; Boisliniere, Louis C., 113; Bailey, Fred W., 101; Harris, Rufus C., 91; Ambrose, Olney A., 88; Cale, George W., 87.

Delegates: Funkhouser, Robert M., 93; Reder, Francis, 93; Hyndman, Charles E., 92; Kerwin, William, 80; Koetter, Albert F., 81; Morfit, John C., 78; Elbrecht, Oscar H., 75; Hurford, Phelps G., 73; Burford, Cyrus E., 71; Vitt, Rudolph S., 71; Green, John, Jr., 62; Seelig, Major G., 61; Tooker, Charles, 59; Smith, Carroll, 59; Weiss, Richard S., 58; Link, J. Joseph, 58; Raithel, G. Herman, 57; Mook, William, 43.

Dr. Boisliniere read a letter from the American Social Hygiene Association inviting the Society to send representatives to its annual meeting to be held in St. Louis, November 20 and 21.

On motion the chair was instructed to appoint delegates to represent the Society.

Attendance 228.

Meeting of the Council, Nov. 8, 1916

The meeting of the Council was called to order by Dr. L. C. Boisliniere, at 8:45 p. m. The minutes of October 11 were read and approved.

A letter from the Carter Construction Company calling our attention to the fact that a special tax bill for the construction of the Mill Creek Joint District Sewer for \$207.89 had not been paid. On motion, the letter was received and filed.

The following committees reported: Censors, Program, Hospital, Library, Ethics, Ways and Means, Hospitality and Supplies.

Dr. Funkhouser submitted the following report for the Bartscher Fund Committee:

We have collected, since the last meeting of the Council, the interest note of Pauline K. Bicst to the amount of \$82.50.

Per your instructions we have invested \$521.80 in Marshall County, Mississippi, Mt. Pleasant, Road District 5 $\frac{1}{4}$ s due 1928.

We have on hand at the present time \$856.23.

Respectfully,

Bartscher Fund Committee.

Dr. Funkhouser also submitted a list of the receipts and expenditures for the month of October.

It was moved that \$1,000 of the mortgage on the library building be paid off with the interest of the Bartscher Fund. Carried.

The treasurer was authorized to send out bills for 1917 dues on Jan. 1, 1917.

The chair announced that Dr. E. Lee Dorsett had promised the Society a photograph of his father.

The secretary was instructed to publish a notice in the Bulletin to the effect that new members will be exempt from dues for the remainder of 1916.

The following applicants were elected to membership: Louis W. Schreiber, 423 Metropolitan Building; Howard M. Williamson, City Hospital; Franklin E. Jacobi, 905 Morrison Avenue; Harry Eugene Bundy, Barnes Hospital.

Councilors present: Drs. Bliss, Burford, Hamel, Kane, Koetter, Kuhlmann, North, Richter, Schlueter and Thompson; Drs. Boisliniere and Seabold, ex-officio.

Councilors absent: Drs. Grindon and Hurford.

J. ALBERT SEABOLD, M.D., Secretary.

BUCHANAN COUNTY MEDICAL SOCIETY

The regular meeting of the Buchanan County Medical Society was held at their rooms Wednesday evening, November 1, with twenty-seven members present and the president, Dr. Charles Geiger, in the chair. The minutes of the previous meeting were read and approved.

At the suggestion of the chair, a motion was made and carried that the Society adhere to Section 4, Chapter 3, of the By-Laws of the Missouri State Medical Association, which reads as follows:

"No address or paper read before the Association, except that of the President, shall occupy more than twenty minutes in its delivery; and no member shall speak longer than five minutes, nor more than once on any subject."

The following amendment to the By-Laws was introduced by Dr. Daniel Morton:

"Chapter 6, Order of Business, strike out Article 6, Clinical Cases, add the following sentence to Section 2, of Chapter 4: The presentation of all clinical cases before the Society shall be arranged for by this committee which shall have full authority to make such rules and regulations governing the clinics as it may deem best. It shall be the further duty of the committee to encourage clinics before the Society in every possible way."

This was ordered to be printed in the *Bulletin* and to be voted on at our next regular meeting.

Dr. P. I. Leonard reported that the Committee on Medical Inspection of Schoolchildren was to meet with the school board the following Monday night for a final report.

The resignation of Dr. W. T. Elam as a member of the Buchanan County Medical Society was read, duly voted on and accepted.

The president was instructed to call a special meeting to confer with the committee on permanent meeting place, the special meeting to be held at a time convenient for the committee.

Meeting of Nov. 15, 1916

The regular meeting of the Buchanan County Medical Society was held in their rooms at St. Joseph on Wednesday evening, Nov. 15, 1916, with eighteen members present, the president, Dr. Charles G. Geiger, in the chair. The minutes of the previous meeting were read and approved.

The following amendment to the by-laws having received its first reading at the previous meeting and a copy thereof having been sent to each member of the Society, received its second reading and on motion was duly adopted:

Chapter 6. Order of Business, strike out Article 6.

Clinical Cases. Add the following sentence to Section 2, Chapter 4: "The presentation of all clinical cases before the Society shall be arranged for by this committee which shall have full authority to make such rules and regulations governing the clinics as it may deem best. It shall be the further duty of the committee to encourage clinics before the Society in every possible way."

An invitation from the Young Men's Christian Association, inviting the Society to be their guests on Saturday evening, November 12, from eight to nine-thirty o'clock was read and accepted and the secretary instructed to notify each member.

Dr. P. I. Leonard, chairman of the Committee on Medical Examination in the Public Schools, reported no definite action had been taken by the school board. He also requested that the members of this Society be present at the next meeting of the school board when the matter was to come up for final disposition. The secretary was instructed to mail each member of the Society a notice to that effect.

A highly interesting paper, illustrated with stereopticon slides, was read by Dr. J. J. Banschach, on "Cystoscopic Diagnosis of Pathological Conditions of the Bladder." The paper was discussed by Drs. A. B. McGlothlan, C. Potter, Daniel Morton, Jacob Geiger, and closed by Dr. Banschach.

W. F. GOETZE, M.D., Secretary.

CLAY COUNTY MEDICAL SOCIETY

The Clay County Medical Society met in regular session at the Major Hotel in Liberty on the evening of October 30.

Dr. Spence Redman of Platte City, our faithful councilor, was present and presented the proposition of perfecting our state protective fund by an assessment of five dollars a year for five years. The Society endorsed the plan.

Dr. J. J. Gaines, by request, read a paper on "Experiences in the New York Post-Graduate School."

Dr. Rupc of Paradise, Mo., presented a case report which consumed the remainder of the evening in a very profitable discussion.

About twenty members were present and the interest was never better. Dr. Redman said he enjoyed meeting with the Clay County Medical Society because they always MEET.

J. J. GAINES, M.D., Secretary.

HENRY COUNTY MEDICAL SOCIETY

There was no meeting held in Henry County in November, it being a cold, rainy day; the secretary was wishing for some advice, but so it goes. At the October meeting the Society decided to have a Tri-County medical meeting in Clinton this year, and left the time and program to the secretary. December 13 was selected together with the following essayists: Drs. Howard Hill and L. S. Milne, Kansas City, and T. A. Blackmore of Windsor. An acceptance has been received in each instance together with the subject.

The members from Bates and Vernon will have to leave Clinton at 5:40 p. m. as that is the last train south until morning, which cuts us out of an evening session except for our own members.

The bills for dues for 1917 have been received.

F. M. DOUGLASS, M.D., Secretary.

HOWARD COUNTY MEDICAL SOCIETY

The Howard County Medical Society met with the secretary, Dr. C. W. Watts of Lafayette, Friday, Nov. 3, 1916, at 2 p. m. Dr. C. H. Lee, president, called the meeting to order. Members present: Drs. J. B. Flect, V. Q. Bonham, T. J. Payne, C. H. Lee, A. W. Moore, A. B. Burgwin, T. C. Richards and C. W. Watts. Dr. C. R. King of New Franklin was present as a visitor.

The application of Dr. C. R. King was reported favorably by the Board of Censors and he was duly elected a member of the Howard County Medical Society.

The next order of business was the election of officers for 1917, which resulted as follows: president, Dr. A. B. Burgwin of Fayette; first vice president, Dr. T. J. Payne of Fayette; second vice president, Dr. W. M. Pritchett of Glasgow; secretary-treasurer, Dr. C. W. Watts of Fayette. Committee on Pure Food and Drugs, Dr. H. K. Givens, Fayette. Board of Censors, Drs. N. E. Smith, T. J. Payne and C. P. Megee of Fayette. Delegate to Missouri State Medical Association, Dr. W. B. Kitchen, Glasgow; alternate, Dr. V. Q. Bonham, Fayette. Committee on Pro-

gram and Scientific Work, Drs. C. H. Lee, C. W. Watts and A. W. Moore. Committee on Health and Public Instruction, Drs. C. H. Temple, T. H. Dinwiddie and J. B. Flect.

The president appointed a committee consisting of Drs. Bonham, Burgwin and Moore, to draft resolutions expressing the regret of the society that Dr. C. O. Lewis, who for many years has resided in the county and been active in the work of Howard County Medical Society, will soon leave us for his new home in Arkansas. Dr. Lewis has for many years been chairman of our Board of Censors and has with sincerity and kindness guarded our portals from quacks, charlatans and irregulars and we shall greatly miss him and his good wife.

Dr. Flect entertained us with an interesting outline of a case diagnosed aneurysm of the abdominal aorta. He also reported several cases of diphtheria treated successfully with antitoxin.

We enjoyed a very profitable hour and the secretary urged the members to be more prompt in attendance and for the members to pay their dues by our next meeting, Friday, Dec. 1, 1916, so he can fill out the new roster with decks clear and no delinquents for 1917.

The Society compliments our state secretary, Dr. E. J. Goodwin, and extends to him and to our able and faithful councilor, Dr. A. R. McComas, a hearty invitation to be with us at our next meeting, Friday, December 1, at 2 p. m.

C. W. WATTS, M.D., Secretary.

LAFAYETTE COUNTY MEDICAL SOCIETY

The Lafayette County Medical Society at a called meeting met in Higginsville, Tuesday, October 17, at 7:30 p. m., to partake of a sumptuous banquet, and by the way, aside from the scientific feature, the banquet was worth while.

Those present from Higginsville were Drs. Braecklein, Morley, Webb; from Lexington, Drs. Butler, Chalkley, Cope, Ryland; from Odessa, Dr. Schooley; from Mayview, Dr. Mills; from Concordia, Drs. Oetting, Schneider, Schreiman. Visitors, Dr. J. Franklin Welch, Salisbury, president State Medical Association, Drs. O. H. McCandless and E. A. Hocfer, Kansas City, and Mr. Herbert Schreiman.

After the banquet had been disposed of to the satisfaction of all, Dr. J. Franklin Welch addressed us on medical organization, setting forth the efficiency of the present state organization as compared to twenty years ago and prior to that time. We were indeed glad to have Dr. Welch with us.

Dr. O. H. McCandless read an instructive paper on fracture and dislocation of the scaphoid, illustrating same with Roentgen-ray photographs.

After our energetic and painstaking secretary, Dr. Cope, had spoken on medical legislation, several of the physicians made remarks for the good of the Society. FERDINAND SCHREIMAN, M.D., Reporter.

MARION COUNTY MEDICAL SOCIETY

Marion County Medical Society met in regular session at Hannibal on Friday evening, Nov. 3, 1916. Besides the members in attendance there were visiting doctors and a delegation from the Home Economics Club to discuss with the doctors the work of the nurse they employ as a Red Cross visiting nurse.

The doctors expressed their satisfaction with having a nurse they could call on to attend the poor who would otherwise have to do without a nurse.

After some interesting discussion of cases and attention to business the meeting adjourned.

MARY S. ROSS, M.D., Secretary.

PLATTE COUNTY MEDICAL SOCIETY

The Platte County Medical Society held its regular meeting at Ferrelview, in the office of Dr. G. C. Coffey, Nov. 1, 1916. The meeting was called to order by the president, Dr. Coffey. Those present were Drs. Redman, Hale, Hull, Durham, Peterson and Herndon.

Dr. E. E. Peterson of Nashua, a member of Clay County Medical Society, was present by invitation and read a paper on "Refraction." The paper was thoroughly scientific and showed the possibilities and necessity of the country practitioner being competent to do that branch of medicine.

Dr. Spence Redman gave us a talk on "Blood Pressure as a Diagnostic Aid." Much interest was shown in both subjects and much benefit was derived therefrom.

Dr. Coffey appointed Dr. S. L. Durham of Dearborn, Dr. L. C. Calvert of Weston, and Dr. Spence Redman of Platte City, as members of the Red Cross Committee for Platte County.

The Society by vote approves the State Association creating a defense fund against malpractice suits.

The next meeting will be held at Platte City, Dec. 6, 1916.

A. S. HERNDON, M.D., Secretary.

ST. LOUIS COUNTY MEDICAL SOCIETY

The regular monthly meeting of the St. Louis County Medical Society was held in Webster Groves, Nov. 8, 1916. The meeting was called to order by Dr. P. M. Brossard, the president. The scientific program was as follows:

Dr. R. B. H. Gradwohl of St. Louis read a very interesting paper on Chemical Analysis of the Blood.

Dr. A. J. Blairos of St. Louis, and assistant of Dr. Gradwohl, gave a number of laboratory tests. A general discussion followed.

Dr. J. H. Armstrong reported a very puzzling abdominal case, not diagnosed.

Dr. H. G. Wyer reported an unusual case of duodenal ulcer.

The application for membership of Dr. Eugene P. Cockerel was presented and Dr. Cockerel was duly elected to membership in the Society.

The president appointed a committee to make arrangement for the annual banquet to be held in December.

Members present were Drs. P. M. Brossard, O. Koch, J. H. Armstrong, Marshall Baker, A. F. Meisch, S. H. Reynolds, C. L. Armstrong, W. H. Townsend, C. A. Dunnivant, H. G. Wyer, T. T. Hoxey, A. Westrup and G. Jones. Visitors present by invitation were Drs. Gradwohl, Blairos and Smith.

GARNETT JONES, M.D., Secretary.

STE. GENEVIEVE COUNTY MEDICAL SOCIETY

The Ste. Genevieve County Medical Society held its regular monthly meeting at Ste. Genevieve, Nov. 8, 1916, with the vice president, Dr. F. E. Hinch, in the chair. The minutes of the last meeting were approved as read.

There being no program for the evening the time was spent in a general discussion of local medical topics and membership in county medical societies.

Two applications for membership were tabled until next meeting as required in by-laws. The next meeting will be held on the second Wednesday in December.

R. W. LANNING, M.D., Secretary.

WRIGHT COUNTY MEDICAL SOCIETY

The Wright County Medical Society held its annual meeting at Mountain Grove, Nov. 2, 1916. The meeting was called to order by President R. A. Ryan. The following answered to roll call: Drs. Ryan, Fuson and Rogers, Norwood; Drs. Norman and Burdett, Ava; Drs. Hubbard, Daugherty, Wittwer, Ames and Butzke, Mountain Grove. Visitor, Dr. C. M. England.

On motion of Dr. J. A. Fuson, seconded by Dr. H. U. Daugherty, the Society unanimously elected Dr. England to honorary membership in the Society. He is the oldest practicing physician in the county. The doctor made a short talk and expressed his appreciation of the honor.

Dr. R. A. Ryan read a very interesting paper entitled, "The President's Address." He gave a history of the Society during the past three years and what it had accomplished. Then he gave some good, sound advice on how to go after better and greater things in the medical profession and in medical societies.

Dr. C. W. Burdett of Ava, came thirty miles in a Ford to read a paper on "Eczema," and his competitor, Dr. Norman, followed him, also in a Ford, to hear how Dr. Burdett treated eczema. Dr. Burdett's paper was very interesting and instructive and every member present had a good remedy to give, and appreciated the good work of the doctors from Ava.

Election of officers: president, Dr. R. A. Ryan, reelected; vice president, Dr. H. U. Daugherty, reelected; secretary-treasurer, Dr. J. A. Fuson; delegate, Dr. Edward Wittwer, two years; alternate, Dr. R. M. Rogers, two years; censor, A. C. Ames, three years. President Ryan appointed Dr. E. J. Butzke, Mountain Grove, Dr. B. E. Latimer, Hartville, and Dr. C. W. Burdett, Ava, as a committee on Public Health and Legislation.

Drs. C. W. Burdett and R. M. Norman of Ava, Douglass County, presented a resolution that the name of the Wright County Medical Society be changed to the Wright and Douglass County Medical Society. It was voted that the petition be laid on the table until the next regular meeting and voted on as to whether Article 1 of the by-laws shall be changed. The members expressed their sentiments and were pleased with the interest the Douglass County physicians had taken in the Society work and it seems there is no doubt they will win out. It will help get other members from Douglass County.

E. J. BUTZKE, M.D., Secretary.

THE TRUTH ABOUT MEDICINES**NEW AND NONOFFICIAL REMEDIES**

Since publication of New and Nonofficial Remedies, 1916, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

SWAN'S BACILLUS BULGARICUS.—A pure culture in tubes of the *Bacillus bulgaricus*. It is designed for internal administration and for direct application to body cavities, abscesses and wounds. The culture is supplied in boxes of twelve tubes. The tubes must be kept in a cool place and must not be used after the date stamped on the package. Swan-Myers Company, Indianapolis, Ind. (*Jour. A. M. A.*, Nov. 25, 1916, p. 1601).

PROPAGANDA FOR REFORM

PATENT MEDICINE PROSECUTIONS UNDER THE FOOD AND DRUGS ACT.—The following information was brought out in connection with prosecutions by the federal authorities chiefly under that portion of the Food and Drugs Act which provides penalties against misleading, false and unwarranted therapeutic claims: Dr. Porter's Antiseptic Healing Oil was found to be essentially a solution of camphor and carbolic acid in cottonseed oil. It was claimed to be an excellent remedy for cuts, sores, old chronic ulcers, corns, bunions and a preventive of whooping cough, diphtheria and tuberculosis. Ballard's Horehound Syrup Compound was sold "For Consumption, Coughs and Colds" and other diseases. Dr. Shoop's Night Cure, was claimed promptly to cure ulceration, inflammation or congestion of the womb, leucorrhoea, painful ovaries and other female diseases. It was found to be a suppository containing zinc carbonate, zinc sulphate and boric acid in a cacao butter. Dr. Shoop's Cough Remedy was found to be a syrup containing ammonium benzoate and probably white pine tar and gum. Dr. Shoop's Restorative was sold for the cure of all diseases of the stomach, liver and blood and still other diseases. Father John's Medicine was advertised as a consumption "cure." Dr. Shoop's Twenty Minute Croup Remedy was found to be a syrup containing glycerine and a small amount of salicylic acid. Bad-Em Salz was found to consist of sodium chloride, sodium sulphate, sodium bicarbonate, and a small amount of tartaric acid. It was sold with claims suggesting that it was derived from European springs and that it dissolved gallstones and gravel in the kidneys or bladder. Kennedy's Cal-Cura Solvent was a water-alcohol liquid containing 2.44 per cent. potassium acetate, 16.75 per cent. alcohol, 52.46 per cent. cane sugar and vegetable matter resembling mint, cardamom and bone-set. From the claims which were made one would get the impression that there could be few ills that it would not cure (*Jour. A. M. A.*, Nov. 4, 1916, pp. 1385-6).

INTRAVENOUS THERAPY.—The technic, although not difficult, must be thoroughly mastered, or undue pain, infection, air embolism, or even death may result. Often a drug has an action different from that obtained by the usual method of administration. Deaths have resulted not only from a lack of proper technic, but also from a lack of knowledge of drugs so administered. Thus death has followed the injection of an iron preparation containing peptone, and also following intravenous injection of ether. Intravenous injections, while sometimes superior to the slower methods, are distinctly inferior when a continuous rather than a sudden action is desired as with iodids, nitrites, iron or salicylates. Intravenous injections should not be resorted to unless distinct advantages are to be secured, as when immediate action is necessary in emergencies, where the drug is not otherwise absorbed or is destroyed in the stomach. In the light of our insufficient knowledge of the action of simple drugs when administered intravenously, the injection of complex mixtures of drugs is particularly reprehensible (*Jour. A. M. A.*, Nov. 11, 1916, p. 1450).

SLEEPY WATER.—Chicago physicians are told by the Sleepy Water Corporation that Sleepy Water is a "cure" for diabetes, Bright's disease and many other ills. The claim is also made that for six years not a single case of nephritis or diabetes treated with this water has failed to be cured. Sleepy Water sells for a dollar a gallon, but you cannot buy less than fifty gallons. At least a gallon a day must be taken and even five gallons a day may be taken "without any detrimental effect on the heart action, no matter how bad the heart action seems to be." If we are to take the corporation's word for it, "Sleepy Water" has

performed many miracles, although details of its *modus operandi* are not forthcoming, "as no autopsy has been performed on a person cured by Sleepy Water" (*Jour. A. M. A.*, Nov. 18, 1916, p. 1530).

HUMAN EASE.—The federal authorities have issued a fraud order, denying the use of the mails to the Human Ease Medicine Co. of Atlanta, Ga. Human Ease was guaranteed "to cure all diseases both in and on man and beast." Analysis showed it to be an ointment composed of lard with a little sodium bicarbonate, sodium sulphate and potassium nitrate, flavored with oil of sassafras (*Jour. A. M. A.*, Nov. 18, 1916, p. 1540).

SOME MISBRANDED NOSTRUMS.—The following "patent medicines" were found misbranded by the federal authorities: A. D. S. Cod Liver Oil Comp., claimed by the American Druggists' Syndicate to be a sovereign remedy in pulmonary tuberculosis, was not possessed of the virtues claimed, nor a preparation of the active principles of pure Norwegian cod liver oil. Johnson's Chill and Fever Tonic, claimed to be a "guaranteed remedy" for dengue fever, typhoid fever, measles and la grippe, was a watery solution of Epsom salts and cinchonin hydrochlorid. A. D. S. Peroxide Talcum Antiseptic and Deodorant, sold by the American Druggists' Syndicate with the claim that it contained a peroxide and to be a wonderful antiseptic and germicide, was found to have no antiseptic properties and no detectable peroxide. Dr. King's Royal Germetec, claimed to be a "germ destroyer," was found to consist essentially of 98 per cent. water and 2 per cent. sulphuric acid, saturated with hydrogen sulphid (*Jour. A. M. A.*, Nov. 18, 1916, p. 1541).

WHAT AILED HIM?—A druggist wants to know what ailed the patient for whom the following was prescribed: calomel 1 grain, potassium iodide 4 drachms, potassium bromide 3 drachms, potassium citrate 5 drachms, tincture of aconite 2 fluidrachms, wine of ipecac 1 fluidounce, chloroform water to make 3 fluidounces. Without venturing a guess regarding the patient's illness, it is suggested that if anything new was wrong with the patient after he took the medicine, the case may be diagnosed as one of misplaced confidence, either the physician's misplaced confidence in drugs or the patient's misplaced confidence in the physician (*Jour. A. M. A.*, Nov. 18, 1916, p. 1541).

TARTRATES IN NEPHRITIS.—While the vegetable acids, such as citrates, burn to alkali in the body, the tartrates are not so converted, and leave the body nearly in their original form. Underhill and others have shown that tartrates in large doses can cause tubular nephritis in animals. While human beings tolerate without apparent kidney disturbance small doses of tartrates, either given medicinally or as they occur in baking powders and in certain foods, and while it would probably require very large doses to cause kidney inflammation, it would seem inadvisable to give food rich in tartrates or to give medicinally large doses of tartrates in nephritis (*Jour. A. M. A.*, Nov. 25, 1916, p. 1601).

MORE MISBRANDED NOSTRUMS.—The following "patent medicines" have been found misbranded under the U. S. Food and Drugs Act, chiefly because of unwarranted and false therapeutic claims: Dr. Jones' Liniment was recommended for corns, toothache, backache, "rheumatism," and various other conditions. Analysis showed it to be "essentially a gasolene solution of oleoresin of capsicum, oil of sassafras, methyl salicylate, and evidently, volatile oil of mustard." Graham's Dyspepsia and Heartburn Remedy was found to contain, among other things, sodium bromide, sodium bicarbonate, magnesium carbonate, sugar, chloroform, alcohol and small quantities of

morphine. It was asserted to be a remedy for gastritis, ulceration or threatened cancer of the stomach, and all disorders arising from an impaired digestive system. Mother Hart's Baby Syrup admittedly contained opium and alcohol. It was asserted to be "A Safe Remedy for the Home." Dr. Hale's Household Ointment was sold as "A Positive Specific for the Speedy and Permanent Cure of Rheumatism, Lamé Back, Neuralgia" and many other conditions. Analysis showed the ointment to be composed of "vaseline and camphor with a small amount of aromatics resembling oil of thyme." Dr. Greene's Nervura was sold for nervousness, nervous debility, weakness, poor blood, etc. It was found to contain 18 per cent. of alcohol, and celery, ginger and other unidentified vegetable material were indicated. Hill's Freckle Lotion was claimed to be absolutely harmless when used externally according to directions. Yet it was found to contain corrosive sublimate. Dr. Hiatt's Germicide was sold as a specific for croup and for diphtheria, quinsy, sore throat, etc. It was a syrup containing sodium benzoate, phenol, alcohol, a small amount of glycerin, probably balsam of tolu and flavored with oil of wintergreen (*Jour. A. M. A.*, Nov. 25, 1916, p. 1615 to 1616).

UNNA'S PASTE FOR VARICOSE VEINS.—In the treatment of varicose ulcers of a mild form Dr. Ochsner prepared a boot composed of several layers of a bandage, each treated with Unna's paste applied hot. The paste consists of gelatine 4 parts dissolved in 10 parts hot water to which 10 parts glycerin and 4 parts zinc oxide are added (*Jour. A. M. A.*, Nov. 25, 1916, p. 1617).

TOILET LOTION.—Nothing is better to soften and whiten the skin than the official cold cream. For oily skins a tragacanth lotion is suitable (*Jour. A. M. A.*, Nov. 25, 1916, p. 1618).

BOOK REVIEWS

THE CLINICS OF JOHN B. MURPHY, M.D., October, 1916. (W. B. Saunders Co., Philadelphia.)

This number is edited by Dr. P. G. Shillern, Jr., and contains thirty-one talks on a great variety of topics. The opening talk discusses varicose veins. The second talk is a clinic for the Baltimore & Ohio Railroad surgeons, held at the Mercy Hospital, June 15, 1915, in which Dr. Murphy demonstrated thirty cases. The book contains 209 pages and is liberally illustrated, one plate in colors.

THE MEDICAL EPITOME SERIES. PATHOLOGY, GENERAL AND SPECIAL. A manual for students and practitioners. By John Stenhouse, M.D. Second edition. Lea & Febiger, Publishers. Philadelphia and New York.

This little book is intended as an outline of the subject for students to serve as a guide for further study. It is well written for this purpose. The practitioner who wants to review the subject for state board examinations will find it a valuable help.

W. H. L.

SURGERY, GYNECOLOGY AND OBSTETRICS, November, 1916, (Chicago).

In this issue Dr. Hugh Cabot and Dr. E. Granville Crabtree of Boston jointly present a splendid article on "The Etiology and Pathology of Non-Tuberculous Renal Infections." It is followed by fourteen other original articles, among them one by Dr. Arthur E. Hertzler of Kansas City, on "Ectopia Testis Transversa with Infantile Uterus." The Department of Technic, the abstracts from surgical literature, and the proceedings of the Chicago Gynecological Society make up the balance of the issue.

ANNALS OF SURGERY, November, 1916 (J. B. Lippincott Company, Philadelphia).

The leading article in this issue is a case report by Dr. Thomas R. Chambers, Baltimore, on "Epithelioma Immediately Following Single Burn." The case is reported because of the rarity of such occurrences, and because of the bearing such cases have on the question of the etiological factors in the development of cancer.

This article is followed by sixteen other original papers and the transactions of the New York Surgical Society. The book contains 107 pages and is illustrated with many plates and drawings.

AN AUTOBIOGRAPHY. By Edward Livingston Trudeau. Lea & Febiger, Publishers, Philadelphia and New York, 1916.

One of the most interesting autobiographies written is this one by Trudeau. In perusing the pages of this book one feels that he is traveling over the same roads the author trod in his search for health, feels the same joys and the same sorrows, and the same exultation that Trudeau felt in reaching the goal of his ambition—"The Adirondack Cottage Sanatorium for Tuberculosis." One not only finds pleasure in reading this autobiography but learns the history of the struggles of the pioneers in the field of tuberculosis work. This book should be in the hands of every student of human nature and of tuberculosis workers.

J. J. S.

A PRACTICAL TREATISE ON DISORDERS OF THE SEXUAL FUNCTION IN THE MALE AND FEMALE. By Max Hühner, M.D., Chief of Clinic, Genito-Urinary Department, Mount Sinai Hospital Dispensary, New York City, etc. F. A. Davis Company, Publishers, Philadelphia. Price, \$3.00.

The author has produced an excellent treatise on a subject that has received scant attention by medical men and therefore its bearing on various abnormal conditions has been practically entirely overlooked. Hühner believes the treatment of sexual neuroses belongs to the genito-urinary specialist more than to the neurologist. He arraigns the former for neglecting this field of investigation but does not underrate the value of the work of the neurologist. All forms of disorders of the sexual function are discussed in a very interesting fashion, the dogmatism of one assured that he is stating a proposition not universally accepted being happily relieved by a certain pleasing style that engages the reader's attention throughout the work. Each condition is thoroughly considered.

THE HEALTHY GIRL. By Mrs. Joseph Cuning, M.B. (Lond.), Hon. Med. Director to the Open-Air School in the London Botanical Gardens, and A. Campbell, B.A., Lecturer in Biology and Hygiene, Technical Institute, Swindon. Oxford University Press, 35 West Thirty-Second Street, New York, 1916. Price, \$1.75.

Here is a book that should be placed in the hands of every girl who is entering on that most important period of her life, the period beginning with the end of school life and the commencement of—life. Too long has the enlightenment of the prospective mothers of the nation been neglected in respect to their knowledge of themselves. The authors have produced the most appropriate work of its kind that we have seen. It is written for the girl who is "leaving school and learning to face life" for the purpose of helping her "to understand the most important circumstance which she is likely to encounter—herself." It is admirably done. The difficult topic of menstruation is discussed in the most chaste manner and the subject of bad habits so delicately yet forcefully treated that the reader feels nothing but a desire to avoid them. The chapter on fresh air and breathing will be a revelation to most girls. The book is adequately illustrated.

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